

BIOLOGICAL RESOURCES REPORT FOR THE RAMONA GRASSLANDS PRESERVE PROJECT

PREPARED FOR:

County of San Diego
Department of Parks and Recreation
5500 Overland Avenue, Suite 410
San Diego, CA 92123
Contact: Ms. Jennifer Price

PREPARED BY:

ICF International
9775 Businesspark Avenue, Suite 200
San Diego, CA 92131

November 2011



ICF International. 2011. *Biological Resources Report for the Ramona Grasslands Preserve Project*. November. San Diego, CA. Prepared for: County of San Diego, Department of Parks and Recreation.

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Acronyms and Abbreviations

°F	Fahrenheit
SKR	Stephens' kangaroo rat
ABA	Architectural Barriers Act
ADA	Americans with Disabilities Act
AMSL	above mean sea level
ASMD	Area-Specific Management Directive
BMO	Biological Mitigation Ordinance
BRCA	Biological Resource Core Area
CalFire	California Department of Forestry and Fire Protection
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	County of San Diego
CSS	coastal sage scrub
CWA	Clean Water Act
DPR	County Department of Parks and Recreation
DPW	San Diego County Department of Public Works
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
GIS	geographic information system
HCP	Habitat Conservation Plan
HLP	Habitat Loss Permit
HMP/RMP	Habitat/Resource Management Plan
I-	Interstate
ICF	ICF International
MBTA	Migratory Bird Treaty Act
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSCP	Multiple Species Conservation Program
NCCP	Natural Community Conservation Planning
NE	northeast
North County MSCP	Draft North County Multiple Species Conservation Program
NPPA	Native Plant Protection Act
NW	northwest
PAMA	pre-approved mitigation areas
Preserve	Ramona Grasslands Preserve
Preserve PAP	Ramona Grasslands Preserve Public Access Plan
Preserve RMP	Ramona Grasslands Preserve Resource Management Plan
Preserve VMP	Ramona Grasslands Preserve Vegetation Management Plan

project	Ramona Grasslands Preserve Project
RCA	Resource Conservation Areas
RMWD	Ramona Municipal Water District
RPO	Resource Protection Ordinance
RTA	Ramona Trails Association
RWQCB	Regional Water Quality Control Board
RWQCB	Regional Water Quality Control Board
SAMP	Special Area Management Plan
SE	southeast
SR-	State Route
stations	avian point count stations
SW	southwest
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Service
WCB	Wildlife Conservation Board
WoUS	waters of the U.S.
WRI	Western Research Institute

Summary

The Ramona Grasslands Preserve (Preserve) Project (project) consists of the following four components: implementation of the management directives identified in the Preserve Resource Management Plan (RMP) (County 2011a) and the Preserve Vegetation Management Plan (VMP) (County 2011b); establishment of a multi-use trail system within the Preserve consistent with the Preserve Public Access Plan (PAP) (County 2010), a component of the Preserve RMP; and construction of supporting infrastructure improvements, such as a staging area, ranger station/interpretive center/restroom facility, a maintenance building, a primitive amphitheater, picnic areas, a viewing pavilion/visitor kiosk, and a horse arena. The proposed multi-use trail network would include a crossing of Santa Maria Creek, and this report includes an analysis of two alternative crossing locations/scenarios: (1) a dry weather crossing or bridge in the northwest (NW) portion of the Preserve and (2) utilizing a crossing proposed to be constructed by the Ramona Municipal Water District (RMWD) on their property associated with their Santa Maria Wastewater Treatment Plant Expansion project.

The approximately 3,490-acre project site is located in the unincorporated community of Ramona and is primarily situated just west of the Ramona Airport and north of the intersection of Highland Valley Road and Rangeland Road. The Preserve was acquired in sections starting in 2004 for inclusion in the Draft North County Multiple Species Conservation Program (North County MSCP) (County 2009b) preserve system. The County of San Diego (County) is responsible for management, resource monitoring, and meeting the conditions of the MSCP coverage on County-owned lands. The Preserve is operated, administered, and managed by the County Department of Parks and Recreation (DPR).

The following sensitive vegetation communities would be directly impacted as a result of new trail construction; the crossing of Santa Maria Creek in the NW portion of the Preserve (and associated temporary staging area), the staging area in the northeast (NE) portion, and associated facilities/improvements (picnic areas, interpretive center/ranger station, etc.), for a total of 6.628 acres of impact on the following sensitive vegetation communities: nonnative grassland (6.27 acre), open coast live oak woodland (0.08 acre), disturbed wetland (0.006 acre), non-vegetated channel (0.002 acre), southern mixed chaparral (0.11 acre), coastal sage-chaparral scrub (0.03 acre), and disturbed coastal sage scrub (0.13 acre). If the alternative crossing of Santa Maria Creek on RMWD property is utilized, impacts on native or naturalized vegetation communities would be reduced to a total of 5.76 acres consisting of 5.43 acres of nonnative grassland, 0.07 acre of open coast live oak woodland, 0.10 acre of southern mixed chaparral, 0.03 acre of coastal sage-chaparral scrub, and 0.13 acre of disturbed coastal sage scrub. Significant impacts on sensitive vegetation communities would be offset through offsite preservation of habitat or the purchase of mitigation credits in accordance with established mitigation ratios.

The proposed dry weather crossing of Santa Maria Creek in the NE portion of the Preserve would result in direct impacts on 0.008 acre of jurisdictional wetland waters of the U.S. (WoUS)/State and California Department of Fish and Game (CDFG) streambed. If a bridge is constructed in this location or if the alternative crossing of Santa Maria Creek on the RMWD property is utilized, impacts on jurisdictional resources would be avoided. Construction and maintenance of the proposed trail along Old Survey Road would result in impacts on 18 square feet (0.0004 acre) regulated as a non-wetland WoUS and 36 square feet (0.0008 acre) of CDFG streambed. Unavoidable impacts on

jurisdictional resources would require permits/approvals from the U.S. Army Corps of Engineers (USACE), CDFG, and Regional Water Quality Control Board (RWQCB). Mitigation is proposed to consist of offsite restoration and/or enhancement; details of the mitigation for impacts on jurisdictional resources (including a conceptual mitigation plan) will be finalized as part of the permitting process with the USACE, CDFG, and RWQCB.

Focused surveys for special-status plant species were not conducted outside of the identified Preserve boundaries, including within the impact area of the proposed new trail section to be constructed east of Rangeland Road and west of the Ramona Airport and within the impact area of the proposed new trail section that would be required if the alternative crossing of Santa Maria Creek on the RMWD property is constructed by RMWD and permission for public access is given by RMWD. As potentially suitable habitat for special-status plant species occurs along the proposed new trail segment near the Ramona Airport and the potential new off-site trail segment on the RMWD property, the construction of these segments has the potential to result in impacts on special-status species, if found to occur within the proposed footprint. In addition, construction of the staging area in the NE portion of the Preserve would result in impacts on five individuals of southern tarplant, a County List A species. An impact on five individuals of southern tarplant does not represent a significant loss of the population of the plant species on the Preserve and; therefore, no mitigation is necessary. Potential impacts on special-status plant species resulting from the project would be mitigated through the completion of focused surveys (where necessary and biologically warranted) and the presence of a biological monitor during trail construction to ensure avoidance.

Focused surveys for special-status wildlife species were not conducted outside of the identified Preserve boundaries, including within the impact area of the proposed new trail section to be constructed east of Rangeland Road and west of the Ramona Airport and within the impact area of the proposed new trail section that would be required if the alternative crossing of Santa Maria Creek on the RMWD property is utilized. Because potentially suitable habitat for listed wildlife species occurs along the proposed new trail segment near the Ramona Airport and the proposed new off-site trail segment on the RMWD property, the construction and maintenance of these segments have the potential to result in impacts on wildlife species listed as federally or state endangered or threatened, if found to occur in the proposed impact area. In addition, the project could result in impacts on arroyo toad and suitable/occupied aestivation and breeding habitat as a result of new trail construction and maintenance in the NW portion of the Preserve (including the crossing of Santa Maria Creek). Approximately 1.24 acres of suitable arroyo toad aestivation upland habitat (0.38 acre within the proposed trail alignment and 0.86 acre within the temporary bridge construction staging area) and 0.008 acre of breeding wetland/riparian habitat (within the footprint of the dry weather crossing) would be directly affected by the project. If the alternative Santa Maria Creek crossing on the RMWD property is utilized, the project's impact on arroyo toad habitat would be reduced to 0.37 acre of suitable aestivation upland habitat (0.34 acre within the proposed onsite trail alignment and 0.03 acre within the potential offsite section within the RMWD property).

Stephens' kangaroo rats were observed in the southwest (SW) portion of the Preserve as well as within the southwestern corner of the NE portion of the Preserve, and most of the grasslands within the Preserve are considered suitable habitat for this species to occur. The construction and maintenance of trails in the vicinity of suitable/occupied habitat have the potential to result in direct and indirect impacts on Stephens' kangaroo rat.

Potential impacts on special-status plant species resulting from the project would be mitigated through the completion of focused surveys (where necessary and biologically warranted) and the presence of a biological monitor during trail construction to ensure avoidance.

The Preserve is known to support or has the potential to support tree-nesting raptors (e.g., Cooper's hawk, red-shouldered hawk, ferruginous hawk, etc.), ground-nesting raptors (e.g., northern harrier and burrowing owl), and the golden eagle. The project is not anticipated to result in impacts on the nesting success of the golden eagle because the known nesting site is located 0.5 mile from the nearest existing trail that is proposed to be part of the formal trail network within the Preserve, and the closest proposed new trail construction is located over 4,000 feet from the known eagle nesting location (and is not within sight of the known nesting location). However, the project could impact the nesting success of tree- and/or ground-nesting raptors if grading, clearing, or other noise generating construction activities would occur during their breeding season, defined as January 15 to July 15 and February 1 to July 31, respectively. Potential impacts on nesting birds/raptors would be avoided through prohibiting clearing or grading during the breeding season or completing preconstruction nesting bird surveys prior to project activities to ensure active nests are avoided.

The project has been designed to minimize impact on sensitive biological resources. In addition, mitigation measures have been identified that would reduce all significant impacts on sensitive biological resources to below a level of significance. Furthermore, the Preserve RMP and Preserve VMP involve the long-term maintenance and adaptive management of the Preserve for the benefit of the sensitive biological resources. Therefore, the project would have a net benefit to the sensitive biological resources known to occur within the Preserve.

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1.1 Purpose of the Report

The purpose of this report is to analyze the potential effects on sensitive biological resources associated with the proposed Ramona Grasslands Preserve Project (project), which consists of the following four components: implementation of the management directives identified in the Ramona Grasslands Preserve (Preserve) Resource Management Plan (Preserve RMP) and the Ramona Grasslands Preserve Vegetation Management Plan (Preserve VMP); establishment of a multi-use trail system within the Preserve consistent with the Ramona Grasslands Preserve Public Access Plan (Preserve PAP); and construction of supporting infrastructure improvements. This analysis is intended to support the County of San Diego's review process under the California Environmental Quality Act (CEQA) and other applicable local, state, and federal regulations. Specifically, this report identifies the biological resources at, or potentially occurring on, the proposed Preserve; analyzes impacts on biological resources associated with implementation of the proposed project; and recommends measures to avoid, minimize, and/or mitigate significant impacts on sensitive resources. The analysis presented herein follows applicable federal, state, and local rules and regulations including CEQA and state and federal endangered species acts.

1.2 Project Location and Description

1.2.1 Project Location

The Preserve is located in northern San Diego County approximately 6 miles east of Interstate (I-) 15, approximately 1.5 miles south of State Route (SR-) 78, approximately 1.4 miles north of SR-67, and approximately 2 miles west of downtown Ramona, California (Figures 1 and 2). The Preserve is primarily just west of the Ramona Airport and east and north of Highland Valley Road.

The Preserve is within the Santa Maria Valley, which consists of a broad basin surrounded by gentle hills and rocky rises ranging in elevation from approximately 410 meters (1,350 feet) above mean sea level (AMSL) along the valley floor to over 518 meters (1,700 feet) AMSL in the rocky hills of the northern sections of the Preserve.

The Preserve's 3,490 acres are divided among three distinct pieces with separate boundaries:

- The westernmost portion comprises two relatively large pieces (referred to as southwest [SW] and northwest [NW]) that are connected by a slim parcel of land. The SW portion is bounded to the south by Highland Valley Road, west by rural residential development, northeast by Ramona Municipal Water District (RMWD) land, and east by Rangeland Road. It consists of rolling hills with rocky outcrops and areas of oak woodlands that transition into the lower topography grasslands to the south. Santa Maria Creek also flows through this area of the Preserve. The NW portion is bounded to the south by an unpaved road and RMWD lands, and by rural residential development and open space along its other boundaries. It is characterized by rocky hills bisected by Bandy Canyon, through which the Santa Maria Creek flows.

- The northeast (NE) portion is bounded to the south by the Ramona Airport, west by RMWD lands and rural residential development, north by rural residential development, and east by planned residential development and associated proposed open space. The NE portion is characterized by rocky chaparral-covered hillsides in the north and lower topography grasslands in the south.
- The southeast (SE) portion is bounded to the south primarily by rural residential development, west by Rangeland Road and the SW portion of the Preserve, and north by RMWD land and the Ramona Airport. The SE portion consists of low, rolling hills supporting grasslands and rocky outcrops. The Santa Maria Creek channel follows the southern boundary.

1.2.2 Project Description

The proposed project would provide resource management and recreational use improvements to enhance the existing Preserve. The Preserve was acquired in sections starting in 2004 for inclusion in the Draft North County Multiple Species Conservation Program (North County MSCP) (County 2009b) preserve system. The County of San Diego (County) is responsible for management, biological monitoring, and meeting the conditions of the MSCP coverage on County-owned lands. The Preserve is operated, administered, and managed by the County Department of Parks and Recreation (DPR).

The project has four components including implementation of the management directives identified in the Preserve RMP (County 2011a) and the Preserve VMP (County 2011b); establishment of a multi-use trail system within the Preserve consistent with the Preserve PAP (County 2010); and construction of supporting infrastructure improvements. The Preserve RMP and Preserve VMP have both been developed by DPR to guide the management and preservation of biological and cultural resources within the Preserve. Each of these four project components is discussed in more detail below.

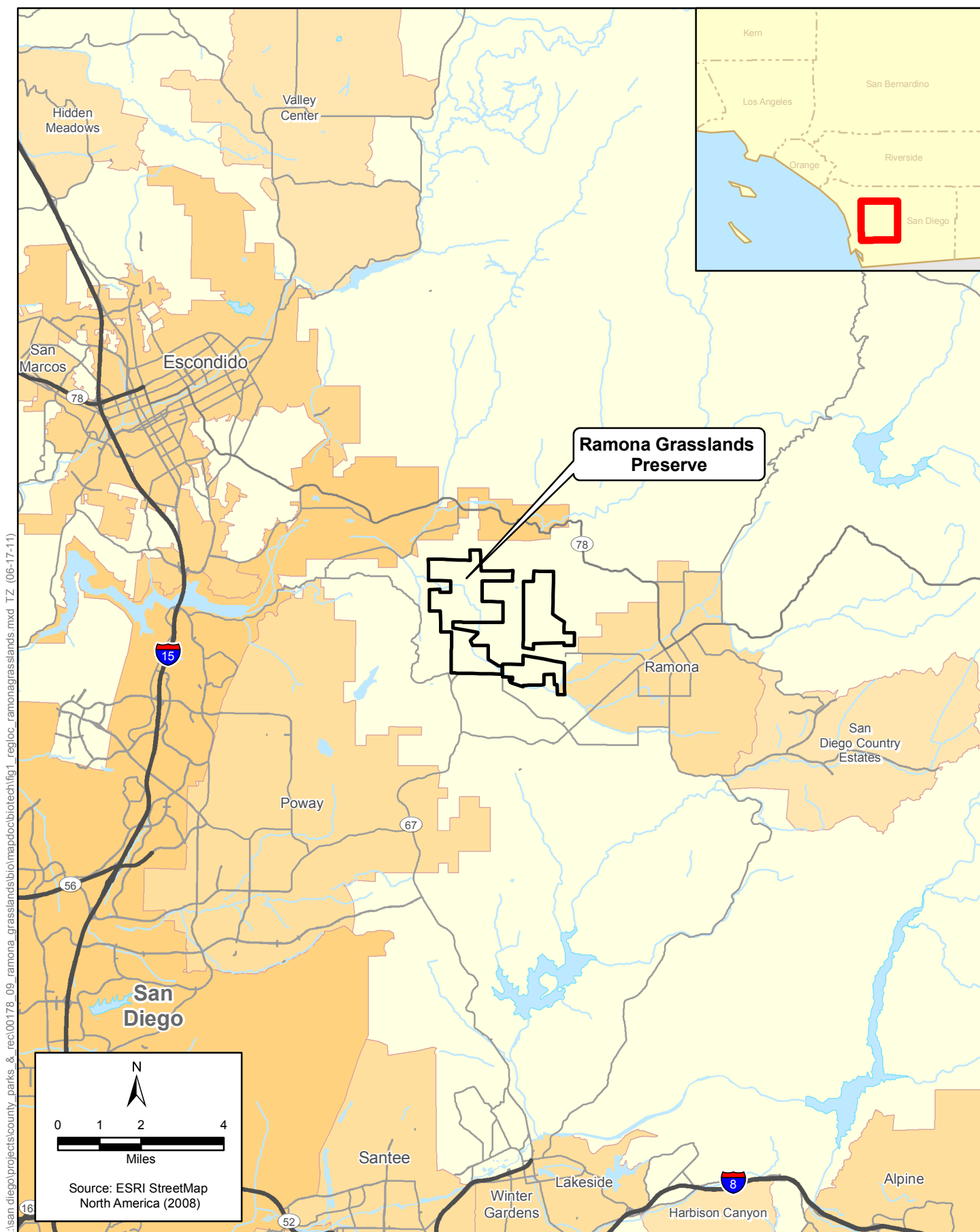
1.2.2.1 Preserve Resource Management Plan

The proposed Preserve RMP would provide Area-Specific Management Directives (ASMDs) pursuant to the requirements of the Draft North County MSCP and the associated Draft Framework Resource Management Plan (County 2009a). Specifically, the Preserve RMP establishes baseline conditions from which adaptive management will be determined and success measured; guides the management and monitoring of biological and cultural resources to protect and enhance their values; serves as a guide for appropriate onsite public uses; and provides an overview of the operation and maintenance requirements to implement management goals.

The Preserve RMP includes management directives and associated implementation measures to meet North County MSCP goals and objectives under the following elements: (A) Biological Resources; (B) Vegetation Management; (C) Public Use, Trails, and Recreation; (D) Operations and Facility Maintenance; and (E) Cultural Resources. Specific management directives are listed below.

1.2.2.2 Preserve Vegetation Management Plan

Similar to the Preserve RMP, the Preserve VMP provides management guidance through specific and adaptive management practices with its focus on the vegetative resources within the Preserve. The Preserve VMP would enhance appropriate habitat for native target species through removal and control of invasive nonnative species; provide a framework for the restoration of closed trails within



the Preserve; provide a fire management strategy that plans for wildland fires; and provide a grazing management plan based on historic, current, and proposed grazing practices.

The Preserve VMP includes management directives under the following elements: invasive nonnative species management; habitat restoration; grazing; and fire management.

Invasive Nonnative Plant Species Management

Directives for invasive nonnative plant species management focus primarily on several targeted invasive nonnative plant species found within the Preserve. Invasive nonnative plant species management includes annual inspections of all previously infested Preserve areas and documentation of newly infested areas, followed by treatment (i.e., hand or mechanical removal and disposal, herbicide treatment, prescribed fire, or grazing in grasslands) of individual invasive nonnative plants prior to flowering and seed set. Treated areas would be monitored to ensure effectiveness of treatment efforts.

Habitat Restoration

Habitat restoration directives support reestablishment of areas of the Preserve through natural processes (i.e., passive restoration) to the extent feasible. Active restoration activities would only occur following landscape changing disturbances that remove, damage, degrade, or alter the desired native habitats. Active restoration methods would be tailored to the type of disturbance and would require preparation of a detailed restoration plan. Management directives for habitat restoration include monitoring of invasive nonnative plant species removal sites to ensure passive natural recruitment is successful; monitoring habitat quality for sensitive wildlife species to determine if active restoration is necessary to return habitats to pre-fire habitat quality; and monitoring for the presence of disease or pest levels to determine outbreaks and prescribe appropriate treatment.

Grazing

Management directives related to grazing include (1) maintaining the condition of loamy grassland habitats suitable for species such as Stephens' kangaroo rat and raptors to ensure long-term persistence of these species; and (2) decreasing the cover of invasive nonnative annual grasses and forbs and the amount of thatch in vernal pools to improve vernal pool functions.

Fire Management

Management directives related to fire management focus on the cooperation between the California Department of Forestry and Fire Protection (CalFire), the Ramona Fire Department, and DPR for maintaining a safe fire environment at the Preserve. These directives include providing CalFire and the Ramona Fire Department with guidance regarding the natural resources and cultural values at risk during wildfires that threaten the Preserve; minimizing the disturbance of natural and cultural resources during fire suppression on the Preserve when feasible; providing defensible space within the Preserve adjacent to improvements through fuel modification zones; limiting public access to the Preserve during periods of high wildland fire danger using methods such as seasonal closures; and limiting potential of wildfires by posting no smoking signs.

1.2.2.3 Preserve Public Access Plan

An approximately 12.4-mile multi-use trail system for hiking, biking, and equestrian users would be established connecting the four portions of the Preserve consistent with the Preserve PAP recommendations (Figure 3, Table 1-1). The trail system would utilize existing ranch roads and trails to the greatest possible extent, with some new trail construction and a crossing of Santa Maria Creek to increase connectivity in the Preserve. Approximately 10 miles of the proposed trail system already exists in the form of 4 to 10-foot-wide dirt roads that either remain from prior ranching activity or were recently constructed as part of the Oak Country II Trails Project. New trails would be constructed in the NW and NE portions of the Preserve. Approximately 2 miles of pathways are proposed along Highland Valley and Rangeland Roads. Proposed trails and pathways are described below for each portion of the Preserve.

Table 1-1. Proposed Trails and Pathways

Location	Trail Segment	Trail/Pathway Miles		
		Existing	New	Total
SW	Oak Country II	3.8	0.0	3.8
SW Trail Total		3.8		3.8
NW	Old Survey Road 97 and trail connection from Rangeland Road	2.9	0.0	
	NW-SW Connector and Proposed Creek Crossing	0.0	1.4	
NW Trail Total		2.9	1.4	3.3
NE	East-West Segment and North-South Segment	2.9	0.0	
	Re-alignment along North-South Segment	0.0	0.3	
	Trail Segment east of Proposed Staging Area	0.2	0.0	
	Easement connection to Rangeland Road	0.5	0.4	
NE Trail Total		3.6	0.7	4.3
Total Trails for the Preserve		10.3	2.1	12.4
Pathways	Proposed Rangeland Road Pathway (from NW Portion south to Easement Connection with NE Portion)	0.0	0.7	0.7
	Potential Future Highland Valley Road Pathway Including Rangeland Road Pathway south of Easement Connection with NE Portion	0.0	1.3	1.3
Pathway Total		0.0	2.0	2.0

Trail and Pathway Alignments

Southwest Portion

Public access in this portion of the Preserve is provided by the recently constructed Oak Country II trails, comprising approximately 4 miles of trails in two connected loops. The Oak Country II trail project includes a staging area off Highland Valley Road with two shaded picnic areas, ten vehicle

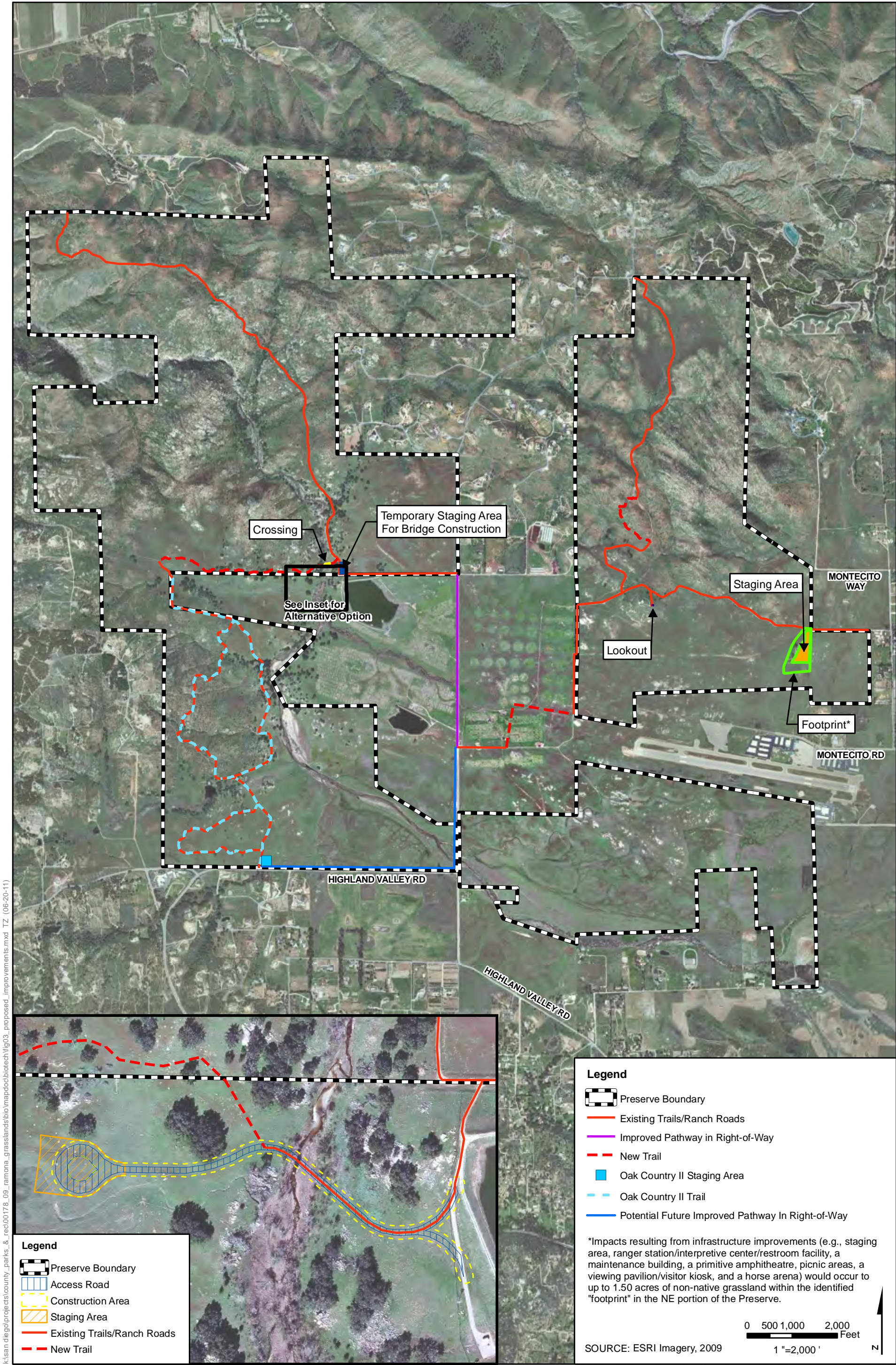


Figure 3
Proposed Trails and Infrastructure Improvements
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parking spaces with overflow room, and pull-through parking for four vehicles towing trailers. No additional trail improvements are proposed at the SW portion as part of the project, with the exception of the connection to the NW portion discussed below.

Northwest Portion

Approximately 3 miles of trails are proposed for the NW portion of the Preserve, including about 2.35 miles that trace part of Old Survey Road 97. Construction of a new 0.7-mile trail segment would connect the southern end of Old Survey Road 97 with the Oak Country II trails in the SW portion of the Preserve. This connection would necessitate crossing Santa Maria Creek (see discussion below). Near the northwest corner of the NW portion of the Preserve, the existing Old Survey Road 97 splits into a southern and northern route. The southern route is proposed to be closed and passively restored.

Primary access to the proposed trail in the NW portion of the Preserve is from the east via a 0.5-mile public road easement (i.e., unpaved road) that lies between the NW portion of the Preserve and RMWD property. This unpaved road intersects with the proposed pathway along Rangeland Road. There would be no provisions for vehicle parking at this location. This visitor access point would include a kiosk for visitor orientation and general information.

Secondary access would occur via a proposed new trail segment connecting with the Oak Country II trails in the SW portion of the Preserve. Visitors would be able to reach this access point by using the existing Oak Country II staging area. The new trail segment continues east and would have to cross Santa Maria Creek to reach the existing Old Survey Road 97; old Survey Road crosses several tributaries to Santa Maria Creek. The proposed crossing of Santa Maria Creek would be a dry weather crossing. At some point in time, an all weather structural crossing (e.g., bridge) would be constructed for pedestrian, cyclist, and equestrian use. The structural crossing would have a maximum width of 12 feet and would consist of non-slip and all-weather materials consistent with the guidelines from the Community Trails Master Plan. The structural crossing would be designed with sufficient length to span Santa Maria Creek with little to no direct impacts on federal and state jurisdictional waters or wetlands. An approximately 0.86-acre (135 feet by 285 feet) temporary construction staging area would be established during bridge construction.

An alternative to the proposed crossing of Santa Maria Creek is to utilize a crossing proposed to by the RMWD on their property associated with their Santa Maria Wastewater Treatment Plant Expansion project. The proposed crossing is located immediately south of the northwest portion of the Preserve (Figure 3). This alternative would require permission from RMWD and could be utilized after RMWD constructs the proposed crossing.

Northeast Portion

Primary access to the proposed trails in the NE portion is from the east, which can be reached via an unpaved unnamed road extending west from Montecito Way. A new staging area would be constructed directly east of a vacant house with associated barn and rodeo corral. The staging area would cover approximately 3 acres and would include visitor parking for 30 cars and 18 horse trailers with room for overflow parking, hitching rails, an informational kiosk, trash receptacles, bathrooms, and picnic tables or benches.

Secondary access would occur from Rangeland Road via a 1-mile public access easement (i.e., unpaved road) through RMWD property. This access route utilizes a portion of an existing unpaved

road, but would also require 0.4 mile of new trail construction where the easement is adjacent to the Ramona Airport property. Signage and fencing would be installed to keep visitors on the trail and off RMWD and Ramona Airport properties.

Trails proposed in the NE portion of the Preserve would follow existing ranch roads and trails, with the exception of an approximately 0.3-mile long section where the proposed trail would deviate from the existing road/trail to avoid public access within sight of a rocky outcrop frequently used by foraging raptors in addition to a severely eroded section. The new trail would loop around the west side of a small hill and then reconnect with the existing road/trail.

Southeast Portion

Because of existing deed restrictions and sensitive resources throughout the SE portion of the Preserve, most of this area is unavailable for public access. However, the southeastern tip (the former Hardy Ranch property) allows for connection to a future trail system associated with the proposed Cumming Ranch Development adjacent to the Preserve. If the Cumming Ranch Development, including trails, moves forward, there would be an approximately 0.3-mile trail connector segment within the SE portion. This segment is included in the Cumming Ranch Development Draft Environmental Impact Report and is not analyzed in this report.

Pathways

In addition to new trails, pathways are proposed along Highland Valley and Rangeland Roads between the edge of pavement and existing fencing within the County-maintained road right-of-way, with the pathway route as far from vehicle travel lanes as possible. Combined, the pathways total about 2 miles in length. The northern 0.7-mile segment of the Rangeland Road pathway is proposed to be constructed. The Highland Valley Road pathway and the southern section of the Rangeland Road pathway may be constructed in the future. The Highland Valley Road pathway is approximately 0.8 mile and would be located on the north side of the road, so that users are adjacent to the Preserve boundary and on the same side of the road as the Oak Country II staging area. The Rangeland Road pathway is approximately 1.2 miles and would be located on the west side of the road. The location of the pathway on the west side of Rangeland Road would necessitate crosswalk signage and/or pavement marking for trail users to cross Rangeland Road to reach the access point to the NE portion of the Preserve (via the RMWD easement).

Trail and Pathway Design

Existing Ranch Roads and Trails

Existing ranch roads that are currently used for vehicle access would be maintained to their current width. In the NW portion, the southern portion of Old Survey Route 97 off the 0.5-mile road easement would be maintained for vehicle access for approximately 1 mile; the existing width of this portion of Old Survey Route 97 is approximately 8 feet. The remainder of this road would be maintained to a trail width of 4 feet.

In the NE portion, the existing east-west ranch road would be maintained to its current width (approximately 8 feet) as needed for vehicle access. The existing dirt road that extends north-south to the northern property boundary would be maintained to 4 feet wide. Any new trail realignments to avoid eroded sections of the existing north-south dirt road would also be 4 feet wide. Eroded sections would be rehabilitated.

In the SE portion, the existing dirt road/trail in this area would be maintained to 4 feet wide.

New Trails

Construction of new trails within the Preserve would meet the guidelines in the Ramona Community Trails and Pathways Plan and Community Trails Master Plan (County 2005, updated in 2009) for Type C (Primitive) trails including 4-foot tread width consisting of natural surface material, with brush management requirements of 1 foot on either side. The new trail segment associated with the RMWD public access easement that connects the NE portion of the Preserve with Rangeland Road would follow the guidelines for Type C trails, except that it would be constructed the same width as the existing dirt road that it connects to (approximately 10 feet wide).

New Pathway

Construction of new pathways along Rangeland Road and Highland Valley Road would meet the guidelines in the Community Trails Master Plan for Type D pathways including 10–12 feet tread width consisting of decomposed granite, with brush management requirements only at the edge of the pathways.

Trail and Pathway Maintenance

Trails

Trails would be maintained at or near their original or intended standards, and maintenance would include various activities to keep trails in a safe, usable condition. Consistent with the Preserve RMP management directives, periodic assessments of trail conditions would be conducted to address surface material, drainage, vegetation clearing, signage, fencing, barriers, and any necessary repairs. Trail maintenance activities would include mowing and brush removal, replacement of damaged signs, trail reconstruction, and erosion control and stabilization.

Unauthorized trails would be blocked or covered with brush to camouflage them in order to discourage use, and to revegetate and protect sensitive habitats. Temporary trail closure may be necessary during maintenance. The trails would be marked with a temporary closed sign to ensure user safety.

Pathway

The San Diego County Department of Public Works (DPW) would be responsible for maintenance of designated pathways and would coordinate the maintenance with similar road maintenance activities involving clearing, grading, weed control, and maintenance of drainage control facilities. Pathway maintenance would include:

- Keeping the pathway free of weeds, brush, rocks, or other obstructions.
- Trimming trees and other vegetation to maintain a minimum vertical (overhead) clearance of 10 feet.
- Repairing erosion in a timely manner by grading, placement of new base material, or installing engineered drainage controls.

1.2.2.4 Other Infrastructure Improvements

Additional new infrastructure associated with the project includes a staging area, a ranger station/interpretive center/restroom facility, a maintenance building, a primitive amphitheatre, picnic areas, a viewing pavilion/visitor kiosk, utility trenching, a horse arena, and two volunteer pads all proposed to be located in the NE portion of the Preserve (Figure 3). Each of these infrastructure improvements is described below:

- The existing house located southwest of an unpaved road extending west from Montecito Way would be refurbished or replaced to serve as a new ranger station/interpretive/restroom facility that meets federal Americans with Disabilities Act (ADA) – Architectural Barriers Act (ABA) accessibility guidelines. A two-space ADA accessible parking lot constructed of decomposed granite would be located adjacent to the house to provide parking for DPR staff. Nighttime security motion sensor lighting would be installed on the building.
- The existing barn structure would be removed and replaced by an approximate 40 foot x 30 foot x 12 foot-tall prefab metal maintenance building placed on concrete foundation. Nighttime security motion sensor lighting would be installed on the maintenance building. No hazardous materials would be stored on site.
- A primitive amphitheatre would be constructed northeast of the proposed maintenance building and would consist of a 0.1-acre area with decomposed granite as the substrate and wooden bench seating in a semi-circle for up to 35 people. The amphitheatre would be ADA accessible. The amphitheatre would be used mostly for classroom education activities.
- Two shaded picnic area structures (each approximately 10 feet x 20 feet) would be constructed near the amphitheater. Another shaded picnic area structure (10 feet x 20 feet) would be constructed north of the proposed horse arena. These structures would be unpaved.
- A viewing pavilion and visitor kiosk, approximately 10 feet x 30 feet with a semi-shaded trellis structure would be constructed on the hill in the vicinity of the existing residence and within existing disturbed/developed areas. The visitor kiosk would be accessible by pedestrian traffic only.
- Trenching of an existing water line would be completed to allow for a new water pipeline to be routed serving the existing residence on the hill. Trenching would originate at the previous trailer home location west of the existing residence.
- The project would also include restoration of the existing rodeo corral to a horse arena, located south of the proposed staging area. DPR is proposing to enter into a Memorandum of Agreement (MOA)/Memorandum of Understanding (MOU) with the Ramona Trails Association (RTA) where the County owns the property and maintains the connecting trails, and the RTA operates and maintains the horse riding arena. The new arena would measure 130 feet x 317 feet, operate during Preserve hours, and vary in usage from 5–10 users per day on weekdays to 10–25 per day on weekends. The concrete blocks and metal and wood debris associated with the existing rodeo corral area on site would be removed as part of the regular initial stewardship and land maintenance.
- Two Volunteer Pads in the NE Portion
 - One volunteer pad approximately 100 feet x 100 feet will be constructed on the west side of the existing residence at 944 Montecito Way. The pad will be constructed with gravel and

- will include electrical and gas hook-up, water, and sewer. Utilities will connect to existing facilities at the site.
- A second volunteer pad approximately 100 feet x 100 feet will be constructed on the west side of the existing residence at 942 Montecito Way. The pad will be constructed with gravel and will include electrical and gas hook-up, water, and sewer. Utilities will connect to existing facilities at site.

1.3 Survey Methodologies

ICF International (ICF) conducted a baseline biological inventory study at the Preserve from 2009–2011 that included the following: (1) vegetation survey with habitat community mapping, rare plant, and Cal-IPC invasive nonnative plant species mapping components; (2) butterfly surveys; (3) herpetofauna survey including pitfall arrays; (4) avian survey including diurnal point counts and nocturnal surveys; (5) mammal survey including small mammal trapping, camera stations for medium to large mammals, and bat surveys; (6) focused vernal pool plant surveys and non-protocol fairy shrimp surveys; and (7) a formal jurisdictional delineation along Old Survey Road and of the proposed crossing of Santa Maria Creek within the NW portion of the Preserve (Attachment A). In addition, this report incorporates the results of previous biological surveys conducted on the Preserve (CBI 2007, Mooney & Associates 2005, and WRI 2007).

The following sources are followed for taxonomy and nomenclature, including both scientific and standardized English names: Rebman and Simpson (2006) for plants; Arnett (2000) for higher taxonomic categories of invertebrate animals; generally Opler and Wright (1999) or Hogue (1993) for invertebrate species; Collins and Taggart (2002) for amphibians and reptiles; American Ornithologist's Union (1998 and supplements) for birds; and Baker et al. (2003) for mammals. The scientific binomial from the cited reference is included with the first mention of a species in the body of this report.

1.3.1 Vegetation Communities/Habitats

1.3.1.1 Vegetation Communities Mapping

Vegetation communities were mapped on a “1 inch equals 200 feet” (1:2400) scale aerial photograph of the Preserve in the field and later digitized into a geographic information system (GIS) coverage using ArcGIS software. Mapping included the entire 3,490-acre Preserve, and vegetation communities were categorized using standard County classifications (Holland 1986 as modified by Oberbauer 2006). During the 2009 surveys, ICF botanists specifically updated existing vegetation community data from previous surveys (CBI 2007) and expanded the vegetation community coverage as needed to ensure coverage of the entire Preserve. Surveyors traversed the study area via meandering transects in an effort to accurately categorize vegetation communities. In addition, all plant species observed were noted, and plants that could not be identified in the field were identified later using taxonomic keys including Beauchamp (1986) and Hickman (1993).

1.3.2 Plants

Prior to conducting any fieldwork, searches of available literature and databases were conducted to determine special-status species previously observed, detected, or with potential to occur within the

Preserve as well as the physical characteristics of the Preserve and surrounding areas (County 2010). Available data that were reviewed included: the California Natural Diversity Database (CNDDDB) database (CDFG 2009; Ramona, San Pasqual, Escondido, Poway, San Vicente Reservoir, El Cajon Mountain, Mesa Grande, Rodriguez Mountain, and Valley Center quadrangles); California Native Plant Society (CNPS) Online Plant Inventory (CNPS 2009); the U.S. Department of Agriculture (USDA) soil survey of the area (USDA 1973); and U.S. Geological Service (USGS) topographic maps to identify potential stream courses and other notable topographic features. For the purpose of this project, special-status plant species include all species listed or proposed for listing by the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG), any species listed as 1B through 4 by the CNPS, any species on the County list (Lists A, B, C, and D), and any species proposed to be covered under the North County MSCP.

1.3.2.1 Floristic Surveys

Rare plant survey priority areas were determined once the literature search and the vegetation mapping were completed. Priority areas include unique features within the Preserve that have a high potential to support rare plant species. These features include clay soils, alkali soils, gabbro soils, vernal pool basins, and unique habitat features such as the north-facing slopes adjacent to coast live oak woodland habitat. During each rare plant survey, ICF botanists traversed the study area via meandering transects in an effort to identify the locations of any special-status species readily detectable. All plant species observed were noted, and plants that could not be identified in the field were identified later using taxonomic keys including Beauchamp (1986) and Hickman (1993) (County 2010).

1.3.3 Wildlife

Surveys were conducted to document the wildlife species currently using the Preserve and to assess the potential occurrence of special-status wildlife species not detected during the surveys (County 2010). The CNDDDB database was reviewed to create a list of wildlife with potential to occur on site (CDFG 2009; Ramona, San Pasqual, Escondido, Poway, San Vicente Reservoir, El Cajon Mountain, Mesa Grande, Rodriguez Mountain, and Valley Center quadrangles). Using a checklist of all species in the region with special status, species were added to the list of potentially occurring species based on professional knowledge and judgment, experience with prior projects in the area, review of previous studies conducted within the Preserve, ICF internal databases, and published and unpublished references. The potential for each of these species to occur on the Preserve or in the immediate vicinity is addressed in the Baseline Biodiversity Report (County 2010). In evaluating the potential for occurrence, a pool of references and resources was utilized for information on species distribution, habitat requirements, disturbance tolerance, threats and causes of declines, and other features of their conservation biology. Special-status wildlife species include all species listed or proposed for listing by the USFWS and CDFG, any species on the County list (Group I and II), species covered under the South County MSCP, and any species proposed to be covered under the North County MSCP.

1.3.3.1 Invertebrates

Butterflies

ICF biologists conducted a habitat assessment for the federally endangered Quino checkerspot butterfly (*Euphydryas editha quino*; Quino) and general butterfly diversity surveys utilizing similar methods as outlined in the USFWS protocol for Quino surveys (USFWS 2002a). Although the Preserve is outside of the “adult focused survey area” for Quino as designated by the USFWS, the primary and secondary host plant species for Quino occur on the Preserve, the designated survey area is within 5 miles of the Preserve, and prior to the 2009 flight season, Quino were observed within approximately 6 miles of the Preserve (USFWS 2009). Therefore, general surveys were conducted using the field methods outlined in the USFWS protocol to increase the likelihood that Quino would be detected if it occurs within the Preserve. These methods are also effective for documenting springtime butterfly diversity.

Butterfly diversity surveys were timed to occur during the middle of the 2009 Quino adult flight season based on the reference population data from the USFWS monitoring information web page (USFWS 2009). The surveys focused on areas with high potential for Quino such as the locations with Quino primary host plants (dot-seed plantain [*Plantago erecta*]), and the secondary host plants (purple owl's-clover [*Castilleja exserta*], dark-tip bird's beak [*Cordylanthus rigidus*], and Chinese houses [*Collinsia* spp.]). The majority of the biologists involved in the surveys possess USFWS recovery permits for Quino. Surveys were conducted generally according to methods outlined in the USFWS protocol (USFWS 2002a). The methods differed from the protocol on the number of surveys, which was limited to three, and also on the extent of the survey area, which was limited to habitat with the highest potential for detecting Quino, rather than 100% coverage of all non-excluded areas.

All butterfly species detected during the surveys were identified and counted, and the data collection forms are presented in the Baseline Biodiversity Report (County 2010). Survey personnel, dates, and weather conditions are presented in Table 1 of the Baseline Biodiversity Report (County 2010). Butterflies identified during other biological surveys are included in the wildlife list in Appendix D of the Baseline Biodiversity Report (County 2010).

Other Invertebrates

In addition to butterflies, other invertebrates were identified either during other surveys (e.g., rare plant surveys, vegetation mapping, etc.) or after being captured in the pitfall traps associated with the herpetological array sampling. All invertebrates that could not be identified in the field were photographed, and those photographs were provided to a local entomologist for identification.

1.3.3.2 Herpetofauna

ICF conducted surveys for herpetofauna (amphibians and reptiles) within the Preserve from March through July 2009. Terrestrial herpetological surveys were conducted using pitfall trap arrays as outlined in “Herpetological Monitoring Using a Pitfall Trapping Design in Southern California” (Stokes et al. 2001) with one variation. This design uses a standardized array of pitfall traps, funnel traps, and drift fencing to perform long-term research over a wide geographic area with replicates among site localities, habitats, and environments. The variation from the Stokes et al. design utilizes wire mesh box traps instead of some of the pitfall traps in order to increase the potential for

catching snake species; additional detail regarding trap design is provided in the Baseline Biodiversity Report (County 2010).

Six sites were selected to construct arrays, which were scattered throughout the Preserve. Array locations were selected based on access, vegetation community, soils, topography, and avoidance of known special-status resources (including cultural resources and occupied Stephens' kangaroo rat habitat). Arrays were constructed in a variety of habitats including oak woodland, coastal sage scrub, nonnative grassland, chamise chaparral, and mixed chaparral (see Figure 8 and Table 2 of the Baseline Biodiversity Report; County 2010). Locations were mapped using GIS technologies.

All areas immediately surrounding the arrays were actively searched for herptiles during the array monitoring. Additionally, active searches for herptiles were conducted in other areas of the Preserve. Active searches included looking under rocks, shrubs and logs, and the periphery of vegetated water features (i.e., Santa Maria Creek, stock ponds, and unnamed drainages). All herptiles observed during active searches and other wildlife surveys were identified to species and recorded. Method of observation (arrays or active surveys) is presented for each species in the results section and Table 14 of the Baseline Biodiversity Report (County 2010).

Monitoring Arrays

Array traps were sampled on four consecutive days once a month beginning in March and continuing through July (County 2010). The traps were opened on a Monday afternoon, sampled Tuesday through Friday, and closed Friday.

Array traps were checked during early morning hours to ensure that animals were released before daytime temperatures reached levels that could result in mortality. All animals were identified to species and immediately released at the point of capture. Biologists did not handle animals other than to photograph and release them from traps. Because the trapping effort's purpose was to generate an inventory of species present within the Preserve (i.e., not to assess population sizes or dynamics), individuals were not marked, weighed, or otherwise measured. Data were recorded on paper and entered into a Microsoft Excel spreadsheet. Recorded information included species and trap number.

Arroyo Toad Surveys

The Santa Maria Creek supports a known population of arroyo toad (*Bufo californicus*), a federally endangered species (Hollingsworth et al. 2006). Protocol presence/absence surveys were not performed in 2009. Instead of the six surveys recommended in the presence/absence protocol, three nocturnal surveys were conducted during peak breeding activity periods to document locations where breeding activity was taking place in 2009 (County 2010). Breeding was confirmed through observations of calling males and identifying egg masses and tadpoles. The nocturnal surveys were conducted with the aid of flashlights and headlamps (Nightrider Trail Rat—a rechargeable 10 watt 6 volt Halogen headlamp). Surveys consisted of listening and inspecting the areas with the highest quality habitat found within Santa Maria Creek. Other aquatic organisms and other species/conditions that may have an effect on the ability of the area to support arroyo toad were also documented during the surveys. During the course of the survey efforts, one arroyo toad reference population (Kimball Valley along San Vicente Creek) was periodically monitored to document any variation in the activity patterns compared to those observed in Santa Maria Creek.

Other Herpetofaunal Methods

Dip netting for the purpose of sampling aquatic herptiles was performed in any pooled or slow-flowing waterways within the Preserve. The majority of the sampling was within or adjacent to Santa Maria Creek. Other areas included stock ponds and unnamed stream channels in the grasslands that held pooled water. A handheld net was pulled through the water to capture herptiles, which were identified and released into the same pool or stream.

1.3.3.3 Birds

Diurnal Point Counts

Avian use of the study area was documented through the use of 12 avian point count stations (stations) sampled once a month for 6 months beginning in March and concluding in August (County 2010). Point counts provide a repeatable, quantitative sampling method for a broad spectrum of birds and were complementary to the general reconnaissance effort, strengthening the reference information developed on relative abundance of birds.

Point count methods followed recommendations provided in Ralph et al. (1995) for extensive (i.e., station independent) surveys. Refer to that source for a detailed discussion of the basis for, and further details on, the methods presented here. A summary of methods, including additions beyond the recommendations, is located in the Baseline Biodiversity Report (County 2010).

Nocturnal Surveys

Monthly nocturnal bird surveys were conducted for 6 months for nighttime birds at the Preserve (County 2010). Methods included a combination of walking and slowly driving roads, looking and listening for birds. A moderately powerful headlamp was used to aid identifications. Tape playback of owl calls was intermittently used in an attempt to illicit responses from birds.

1.3.3.4 Mammals

The goal of the mammal surveys was to document what species are currently using the Preserve for survival and for passage through to other areas of the County. Mammal species were documented through general surveys, small mammal trapping, camera stations, and Anabat sampling. The goal of the small mammal trapping was to document the small mammal species using different habitats on the Preserve. The camera stations documented the medium to large mammal species that are using the Preserve. Anabat sampling was used to document the use of the Preserve by bat species.

Stephens' kangaroo rat (*Dipodomys stephensi*, SKR) is a federally endangered species that is known to occur on the Preserve. Historically, extensive surveys have been conducted documenting the population of Stephens' kangaroo rat that occurs on the SE and SW portions, and the southern section of the NE portion (CBI 2007). These surveys determined that the majority of suitable and occupied SKR habitat was on the mostly well-drained, hilly topography near the center of the Preserve (grasslands), with smaller isolated pockets scattered in other areas of the Preserve. The 2007 Witch Fire consumed many acres of the Preserve's vegetation and much of the burned vegetation has not been quick to grow back. This presented an opportunity for the potential expansion of SKR on the Preserve as this species prefers open habitat.

Small Mammal Trapping

On June 9, 2009, ICF biologists Phillip Richards and Kailash Mozumder visited the Preserve and assessed the physical conditions, vegetative community distribution, vegetative cover, and accessibility for planning the trapping program for small mammals. For the purposes of this project, small mammals include species in the shrew, squirrel, pocket gopher, heteromyid, mouse, rat, and vole families. Combining the results of the visual inspection with a review of recent vegetation mapping and aerial photographs, sample areas were determined. Sample areas were selected based on four criteria: (1) sampling of different vegetative communities; (2) geographic distribution across the Preserve; (3) sampling of unique features (e.g., wash or ecotone); and (4) areas were not specifically avoided due to the presence of existing data (e.g., such as areas known to be occupied by SKR).

Small mammal trapping on the Preserve consisted of 4 weeks of trapping with each sample area trapped for 4 nights. A total of 28 sample areas were trapped. Based on logistical factors, such as distance and terrain between sample areas and number of small mammals captured, the number of traps used per week ranged from 145 to 200 traps. In total, the Preserve trapping program produced 2,890 trap nights (i.e., number of traps multiplied by the number of nights). Additional detail regarding the trapping effort at the Preserve is contained within the Baseline Biodiversity Report (County 2010).

Medium to Large Mammals

For the purposes of this project, medium and large mammals include all mammals in the hare, rabbit, beaver, canid, procyonid, mustelid, skunk, cat, and cervid families.

Camera Tracking Survey

Remote camera stations were used to help document the presence of medium and large mammals within the Preserve (County 2010). These stations allow for the detection of species that are rarely encountered because of their nocturnal or crepuscular activity patterns. Within the Preserve, ten camera tracking stations were set up at locations that are judged to have a high potential for movement of medium and large mammals (e.g., along game trails, abandoned roadways, and existing ranch roads) (County 2010).

Each station consisted of one Moultrie infrared digital game camera, programmed to record an image every time the motion sensor was triggered. Each image includes an information tag that records the date, time, temperature, camera ID, and moon phase. Once in place, the cameras were periodically checked and all recorded images were downloaded to a portable hard drive. Camera station sampling included a spring, summer, and fall survey. Digital images were interpreted and all animals were identified to the species level.

Mammal Track and Sign Survey

Sections of existing ranch roads were carefully examined for tracks and sign (scat, scrapings, etc.) of medium and large mammals throughout the survey season. These track and sign surveys were conducted concurrently with all other surveys scheduled within the Preserve. Surveys were primarily conducted during the day; however, periodic nighttime surveys were performed. Daytime surveys involved hiking accessible ranch roads and periodic inspections of hilltops, ridges, drainages, and game trails. Nighttime surveys involved a combination of driving, hiking, and

listening within the Preserve. When feasible, handheld lights were used to identify any wildlife or wildlife sign observed during the survey.

Bats

Passive surveys using Anabat II bat detectors (Anabats; Titley Electronics, New South Wales, Australia) were conducted within the Preserve. Anabat II bat detectors are utilized to detect and record bat echolocation signals (O'Farrell et al. 1999). These calls are then analyzed and most can be identified to the species level by a biologist experienced with bat vocalization identification. Passive Anabats are designed to automatically turn on and off at set times (i.e., sunset and sunrise), and automatically record bat echolocation signals to a compact flash card. Bat echolocation calls are then downloaded from the compact flash card to a computer and analyzed in the laboratory using specialized software designed for the Anabat system called Analook (version 3.3q). All recorded bat echolocation calls were identified to species, and an index of relative bat activity was generated by taking the number of bat call files recorded divided by the number of Anabat nights (number of Anabats times number of recording nights) multiplied by a factor of 10 to reduce use of fractional numbers.

Passive Anabats were used to survey for bats in the Preserve during three monitoring sessions: spring, summer, and fall 2009. During these monitoring sessions, a total of four passive Anabat units were placed in the Preserve to monitor bats for three consecutive nights. Six locations were sampled (County 2010).

1.4 Environmental Setting (Existing Conditions)

1.4.1 Geographical Setting

The Preserve is within the Santa Maria Valley, which consists of a broad basin surrounded by gentle hills and rocky rises ranging in elevation from approximately 410 meters (1,350 feet) AMSL along the valley floor to over 518 meters (1,700 feet) AMSL in the rocky hills of the northern sections of the Preserve. The Preserve comprises four properties referred to as: northwest (NW) portion, southwest (SW) portion, northeast (NE) portion, and southeast (SE) portion (Figure 2). The NW portion of the Preserve is west of Rangeland Road and is generally north of RMWD property. It is characterized by rocky hills bisected by Bandy Canyon, through which the Santa Maria Creek flows. The SW portion of the Preserve is generally south and west of RMWD property and consists of rolling hills with rocky outcrops and areas of oak woodlands that transition into the lower topography grasslands to the south. The southern boundary is Highland Valley Road, and Santa Maria Creek also flows through this area. The NE portion of the Preserve is located east of Rangeland Road and north of the Ramona Airport. It is characterized by rocky chaparral-covered hillsides in the north and lower topography grasslands in the south. The SE portion of the Preserve is east of Rangeland Road and south of the Ramona Airport. This area consists of low, rolling hills supporting grasslands and rocky outcrops. The Santa Maria Creek channel follows the southern boundary.

1.4.1.1 Geology and Soils

The Santa Maria Valley is located within the western zone of the Peninsular Ranges Batholith. Granodiorite outcrops from this uplifted structure occur across the grasslands of the Santa Maria Valley and dominate the hilltops, where relatively deep, well-drained soils of decomposed granodiorites slope away from them. Lower-lying areas tend to support heavier clay soils, with shallow or surface expression of clay hardpans, and these soils sometimes develop characteristic vernal pool/mima mound topography. Gabbro outcrops can also be found scattered throughout the grasslands and influence plant associations. Several general soil associations are represented within the Preserve: acid igneous, Bonsall, Bonsall-Fallbrook, Bonsanko, Cieneba, Cieneba-Fallbrook, Fallbrook, Las Posas, Placentia, Ramona, Tujunga, Visalia, and Vista (USDA 1973; County 2010). The characteristic features of these associations are described below.

Acid igneous rock land is rough broken terrain. The topography ranges from low hills to very steep mountains. Large boulders and rock outcrops cover 50 to 90% of the total area. The soil material is loam to loamy coarse sand in texture and is very shallow over decomposed granite or basic igneous rock. This soil type is mapped primarily on a large hill near the central portion of the NW portion.

The **Bonsall** soil series (BmC) is characterized by moderately well-drained, shallow to moderately deep sandy loams that have a heavy clay loam subsoil with slopes from 2 to 15%. These soils are mapped in the lower elevation areas of the southern areas of the Preserve.

The **Bonsall-Fallbrook** soil series (BnB) is characterized as a complex of sandy loams with slopes from 2 to 50%. This series is a mixture of soils with about 50% Bonsall sandy loam and 45% Fallbrook sandy loam. These soils appear in undulating uplands, where the Bonsall soils occupy the swales and Fallbrook soils occupy the low mounds and ridges. This soil series is mapped in the southeastern corner of the SW portion, the southern area of the NE portion, and in the northern area of SE portion.

The **Bosanko** soil series (BsC) is characterized as well-drained, moderately deep clays from materials derived from acid igneous rock with slopes from 2 to 30%. These soils are found on uplands that are undulating to hilly. This series is mapped in the SE portion as well as in the southeastern area of the SW portion.

The **Cieneba** soil series (CID2, CIE2, Cme2, CmrG) is characterized as coarse sandy and rocky sandy loams with slopes from 5 to 75%. They are typically described as excessively drained shallow soils that are weathered in place from granite outcrops found in the adjacent uplands. These soils are mapped primarily in the northern sections of the NW and NE portions.

The **Cieneba-Fallbrook** soil series (CnE2, CnG2) is characterized as a soil complex with about 55% Cieneba coarse sandy loam and 40% Fallbrook sandy loam, with slopes of 9 to 65%. This soil is mapped in the NW and NE portions.

The **Fallbrook** soil series (FaB, FaC2, FaD2, FaE2, FeC, FeE, FeE2) is characterized as sandy to rocky sandy loams with slopes from 2 to 30%. These soils are typically moderately deep and well drained, and are weathered in place from granodiorite. This soil is mapped in scattered patches throughout the Preserve.

The **Las Posas** soil series (LpC, LpC2, LpD2) is characterized as fine sandy loams and stony fine sandy loams with clay subsoil with 2 to 65% slopes. These soils are well-drained, moderately deep, and are formed from materials weathered from basic igneous rocks. This soil is mapped in scattered

patches throughout the Preserve. Las Posas soils are considered mafic and are known to support sensitive plants population within the County of San Diego. However, within the Preserve no special-status plant populations were observed on these soils.

The **Placentia** soil series (PeC, PeC2) is characterized as moderately well-drained sandy loams that have sandy clay subsoil, with 0 to 9% slopes. They are moderately well-drained soils made from granitic alluvium and are found on old alluvial fans. This soil is mapped in scattered patches throughout the Preserve.

The **Ramona** soil series (RaB, RaC, RaD2) is characterized as well-drained, very deep sandy loams that have a sandy clay loam subsoil with slopes of 0 to 30%. They are formed from granitic alluvium and are found on terraces and alluvial fans. This soil is mapped in patches in the northern portions of the Preserve.

The **Tujunga** soil series (TuB) is characterized as deep, excessively drained sands derived from granitic alluvium with slopes of 0 to 5%. This soil is mapped along the Santa Maria Creek on the southern portions of the Preserve and the NW portion.

The **Visalia** soil series (VaA, VaB) is characterized as sandy or coarse sandy loams with slopes from 0 to 15%. These are moderately well-drained soils derived from granitic alluvium and are typically found in alluvial flood plains and fans. This soil is mapped in areas of lower topography throughout the Preserve.

The **Vista** soil series (VsC, VsD, VsD2, VvD, VvE) is characterized as rocky coarse sandy loams with slopes of 5 to 65%. These are well-drained, moderately deep to deep soils derived from granodiorite or quartz diorites. Patches of this soil are mapped throughout the Preserve.

1.4.1.2 Climate

A semi-permanent, high-pressure cell located over the Pacific Ocean dominates San Diego climate. This cell drives the dominant onshore circulation, maintaining clear skies for much of the year. Summers at the Preserve are typically warm and dry, while winters are mild with occasional rain (NOAA 2010).

The Western Regional Climate Center, a collaborative project of the National Oceanic and Atmospheric Agency and the Desert Research Institute, maintains a climatic station in Ramona, the closest such station to the Preserve. Data collected at the station indicate that the area experiences a normal mean temperature of approximately 62 degrees Fahrenheit (°F), with a mean maximum temperature of 77°F and a mean minimum of 46°F. In a normal year, precipitation at the Preserve averages 16 inches and falls mostly in the winter and spring.

1.4.1.3 Fire History

The landscape within the Preserve is of oak woodlands and chaparral surrounding nonnative grasslands, which are maintained by cattle grazing and infrequent fires. Repeated short-interval fires in chaparral and sage scrub habitats tend to result in type-conversions to annual grasslands with few trees or shrubs (Minnich and Dezzani 1998). The hills surrounding the Preserve have burned repeatedly (approximately every decade in the past 50 years [SanGIS 2009]), and increasing fire ignitions correlated with human population growth may conceivably increase the extent of the grasslands over time via type-conversion of shrub habitats (Keeley and Fotheringham 2001). The 2007 Witch Fire burned a substantial portion of the Preserve and prior to this, smaller portions of

the Preserve were burned during the Clevenger and Rangeland Fires in 1975 and an unnamed fire in 1970 (County 2010).

1.4.1.4 Trails and Roads

Because most of the Preserve has been ranched, there is an existing network of dirt ranch roads that provide access either by vehicle or foot to most areas. These roads are well maintained and are used primarily for maintenance and care of livestock on the Preserve. There are also older, less frequently maintained roads, such as those in the northern section of the NE portion, that are only accessible via four-wheel-drive vehicle or by foot. There is one paved road that crosses the eastern side of the NW portion of the Preserve. This road provides adjacent residents access to their properties. Approximately 14.8 miles of ranch roads (paved and dirt) occur within the Preserve (County 2010).

1.4.2 Regional Context

The majority of the Preserve is located in the North County MSCP planning area (Figure 4). The northwestern area of the NW portion of the Preserve is located within the boundary of the South County MSCP, specifically within the Metro-Lakeside-Jamul segment (Figure 4). However, the entire Preserve will be managed under the North County MSCP. It should be noted that the North County MSCP has not been approved by the Wildlife Agencies (CDFG and USFWS) and is currently in draft form. A key feature of the North County MSCP is the focus of proposed conservation areas that are identified in the plan as pre-approved mitigation areas (PAMA). As proposed, 80% of the natural habitats within the North County MSCP planning area are proposed for conservation. Within the PAMAs, the plan identifies planning segments including core areas, special areas, and linkages between core areas.

The Preserve is identified within the North County MSCP as containing a core habitat area and a linkage area that connects to habitat east of SR-67. The northern portion that lies within the South County MSCP is also identified as containing a core habitat area. The Preserve also connects to San Pasqual Valley to the north and tenuously to the southeast across SR-67 (where it becomes a linkage) toward Barnett Ranch and the Iron Mountain preserve areas complex.

The Preserve includes USFWS-designated critical habitat for the federally endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*) and arroyo toad and for the federally threatened spreading navarretia (*Navarretia fossalis*) and coastal California gnatcatcher (*Poliophtila californica*; Figure 4). The majority of the critical habitat for the San Diego fairy shrimp exists in the southeast area of the SW portion and almost the entire SE portion, primarily in the vernal pool habitat. San Diego fairy shrimp has been identified within the northeast area of the SE Portion. The critical habitat for arroyo toad exists within the Preserve along Santa Maria Creek within the eastern area of the SW portion continuing into the SE portion. Arroyo toad has been identified within the Preserve along Santa Maria Creek west of Rangeland Road in the SW and NW portions. USFWS-designated critical habitat for spreading navarretia occurs in the northeastern area of the SE portion. Spreading navarretia was not identified on site during 2009 and 2010 surveys; however, it has been historically identified just east of the Preserve and suitable habitat for this species occurs throughout a large portion of the grassland habitat on site. The northern area of the NE portion and southeastern area of the NW portion include USFWS-designated critical habitat for coastal California gnatcatcher. Coastal California gnatcatcher was not identified on site during 2009 surveys; however, this species has historically been detected in and adjacent to the Preserve.

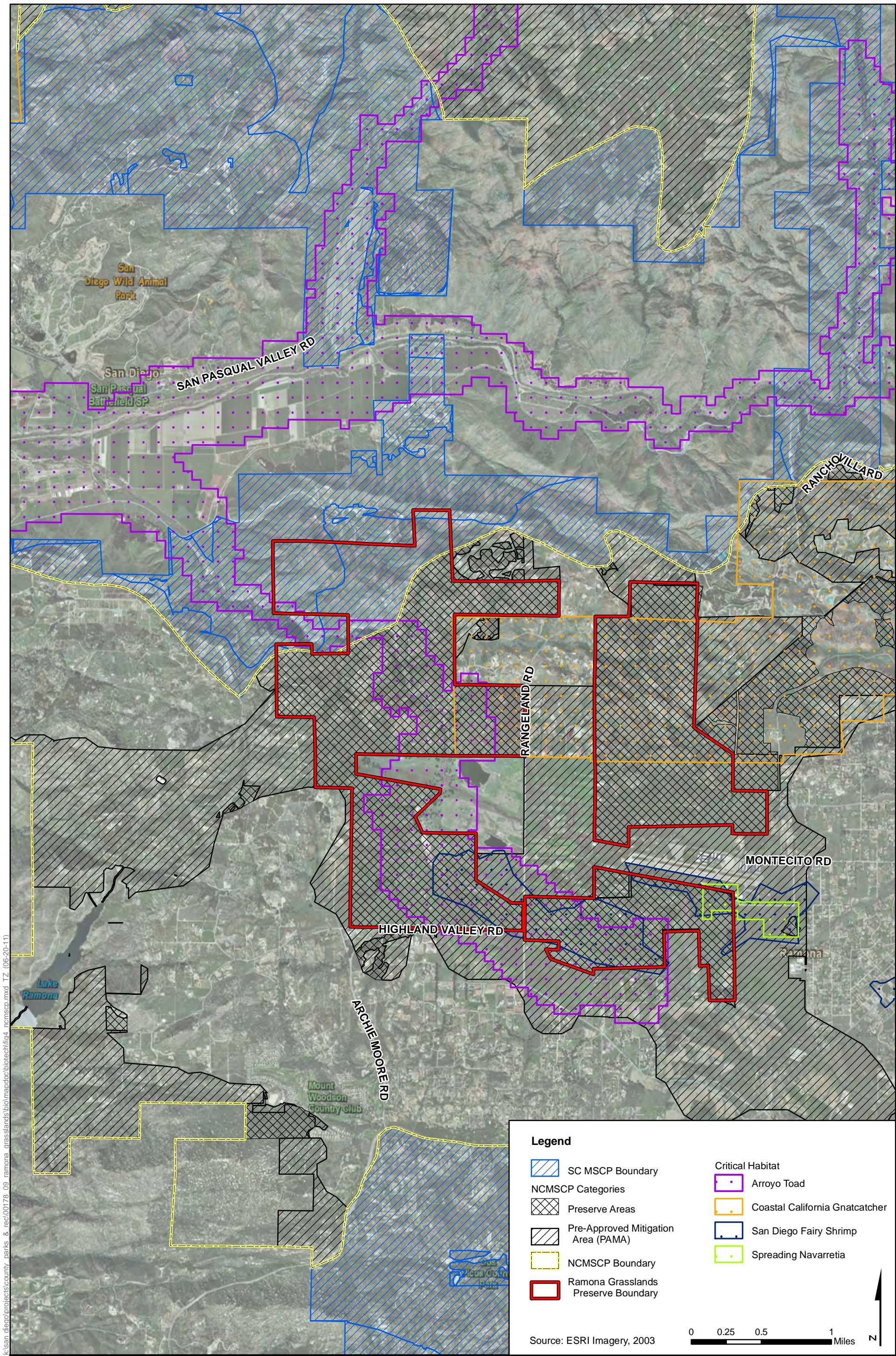


Figure 4
MSCP Designations and Conserved Lands
Biological Resources Report for Ramona Grasslands Preserve Project

1.4.3 Habitat Types/Vegetation Communities

The 2009–2011 surveys conducted by ICF updated the existing vegetation community data for areas previously studied at the Preserve (CBI 2007) and expanded the mapping as necessary to ensure coverage over the entire Preserve. Vegetation communities and land cover types present on the Preserve include: eucalyptus woodland, nonnative woodland, disturbed habitat, developed lands, open water, agriculture, Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, coastal sage-chaparral scrub, southern mixed chaparral, disturbed southern mixed chaparral, chamise chaparral, scrub oak chaparral, valley needlegrass grassland, nonnative grassland, alkali marsh, emergent wetland, disturbed wetland, non-vegetated channel, southern coast live oak riparian forest, mule fat scrub, southern willow scrub, open coast live oak woodland, and dense coast live oak woodland (Figures 5a–5d, Table 1-2). In addition to the vegetation communities listed above, vernal pools and vernal swales occur within the grasslands.

A description of the vegetation communities and associated dominant plant species detected during the surveys are found below. A complete list of plant species observed within the Preserve is provided in the Baseline Biodiversity Report (County 2010).

1.4.3.1 Eucalyptus Woodland (11000)

Eucalyptus woodlands on the Preserve consist of monoculture stands of gum trees (*Eucalyptus* spp.). The stands along the eastern edge of the SE portion appear to have been planted because the trees are evenly spaced in rows. The eucalyptus woodland on the NE portion is near the abandoned residence and just to the north of the residence.

1.4.3.2 Nonnative Woodland (11000)

Nonnative woodland is a community made up of nonnative trees planted for ornamental or agricultural purposes, but appears to be abandoned. Within the Preserve, a small patch of nonnative woodland occurs on the western side of the NW portion and consists of citrus trees (*Citrus* sp.), avocado (*Persea americana*), and fan palms (*Washingtonia robusta*).

1.4.3.3 Disturbed Habitat (11300)

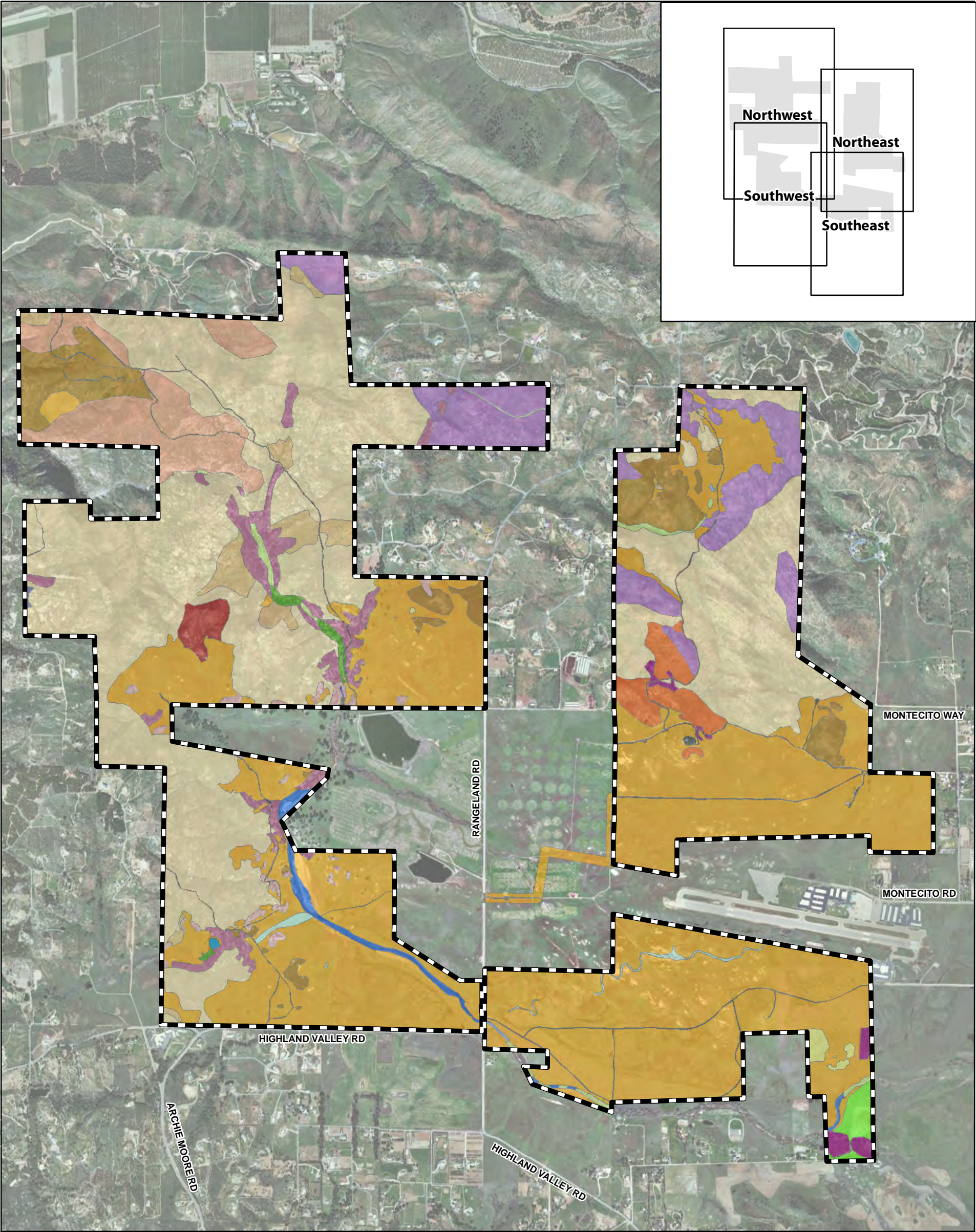
Disturbed habitat within the Preserve consists primarily of ranch roads. These areas are mostly bare ground.

1.4.3.4 Developed Lands (12000)

Developed land typically consists of existing paved roads, buildings, and other infrastructure. On the Preserve, the following areas are mapped as developed: (1) the paved road that crosses through the edge of the eastern side of the NW portion and provides access to adjacent residences and (2) existing infrastructure in the NE portion of the Preserve (i.e., a house and barn near the eastern boundary and the house on the hill).

Table 1-2. Vegetation Communities and Land Cover Types within the Preserve

Vegetation Community/Land Cover Type (Holland/Oberbauer Code)	Code on Figures 5a–5d	Acres
Scrub and Chaparral		
Diegan Coastal Sage Scrub (32500)	CSS	151.02
Disturbed Diegan Coastal Sage Scrub (32500)	DCSS	47.97
Coastal Sage-Chaparral Scrub (37G00)	CSCS	201.34
Southern Mixed Chaparral (37120)	SMC	1,228.11
Disturbed Southern Mixed Chaparral (37120)	DSMC	157.80
Chamise Chaparral (37200)	CC	18.81
Scrub Oak Chaparral (37900)	SOC	57.80
<i>Subtotal</i>		<i>1,862.85</i>
Grasslands		
Valley Needlegrass Grassland (42110)	NG	8.16
Nonnative Grassland (42200)	NNG	1,396.38
<i>Subtotal</i>		<i>1,404.54</i>
Wetlands		
Open Water (13100)	OW	0.84
Alkali Marsh (52300)	AM	8.81
Emergent Wetland (52440)	EMWE	0.84
Disturbed Wetland (11200)	DW	0.81
Non-Vegetated Channel (13200)	NVC	0.35
Southern Coast Live Oak Riparian Forest (61310)	SCLORF	9.37
Mule Fat Scrub (63310)	MFS	23.26
Southern Willow Scrub (63320)	SWS	14.26
<i>Subtotal</i>		<i>58.54</i>
Woodlands		
Nonnative Woodland (11000)	NNW	1.02
Eucalyptus Woodland (11000)	EUC	16.10
Open Coast Live Oak Woodland (71161)	OCLOW	20.58
Dense Coast Live Oak Woodland (71162)	DCLOW	82.13
<i>Subtotal</i>		<i>119.83</i>
Other Land Cover Types		
Disturbed Habitat (11300)	DH	23.88
Agriculture (18000)	AG	17.88
Developed Lands (12000)	DEV	1.50
<i>Subtotal</i>		<i>43.26</i>
Total		3,489.00



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Legend

Preserve Boundary

Vegetation Communities

11200 Disturbed Wetland (DW)

11300 Disturbed Habitat (DH)

12000 Developed Lands (DEV)

13200 Non-Vegetated Channel (NVC)

18000 Agriculture (AG)

32500 Diegan Coastal Sage Scrub (CSS)

32500 Disturbed Diegan Coastal Sage Scrub (DCSS)

37120 Disturbed Southern Mixed Chaparral (DSMC)

37120 Southern Mixed Chaparral (SMC)

37200 Chamise Chaparral (CC)

37900 Scrub Oak Chaparral (SOC)

37G00 Coastal Sage-Chaparral Scrub (CSCS)

42110 Valley Needlegrass Grassland (NG)

42200 Non-Native Grassland (NNG)

52300 Alkali Marsh (AM)

52440 Emergent Wetland (EMWE)

61310 Southern Coast Live Oak Riparian Forest (SCLORF)

63310 Mule Fat Scrub (MFS)

63320 Southern Willow Scrub (SWS)

63320 Southern Willow Scrub - Disturbed (SWS-D)

64100 Open Water (OW)

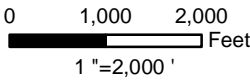
71161 Open Coast Live Oak Woodland (OCLOW)

71162 Dense Coast Live Oak Woodland (DCLOW)

79100 Eucalyptus Woodland (EUC)

79100 Non-Native Woodland (NNW)

Source: ESRI Aerial Imagery, 2003



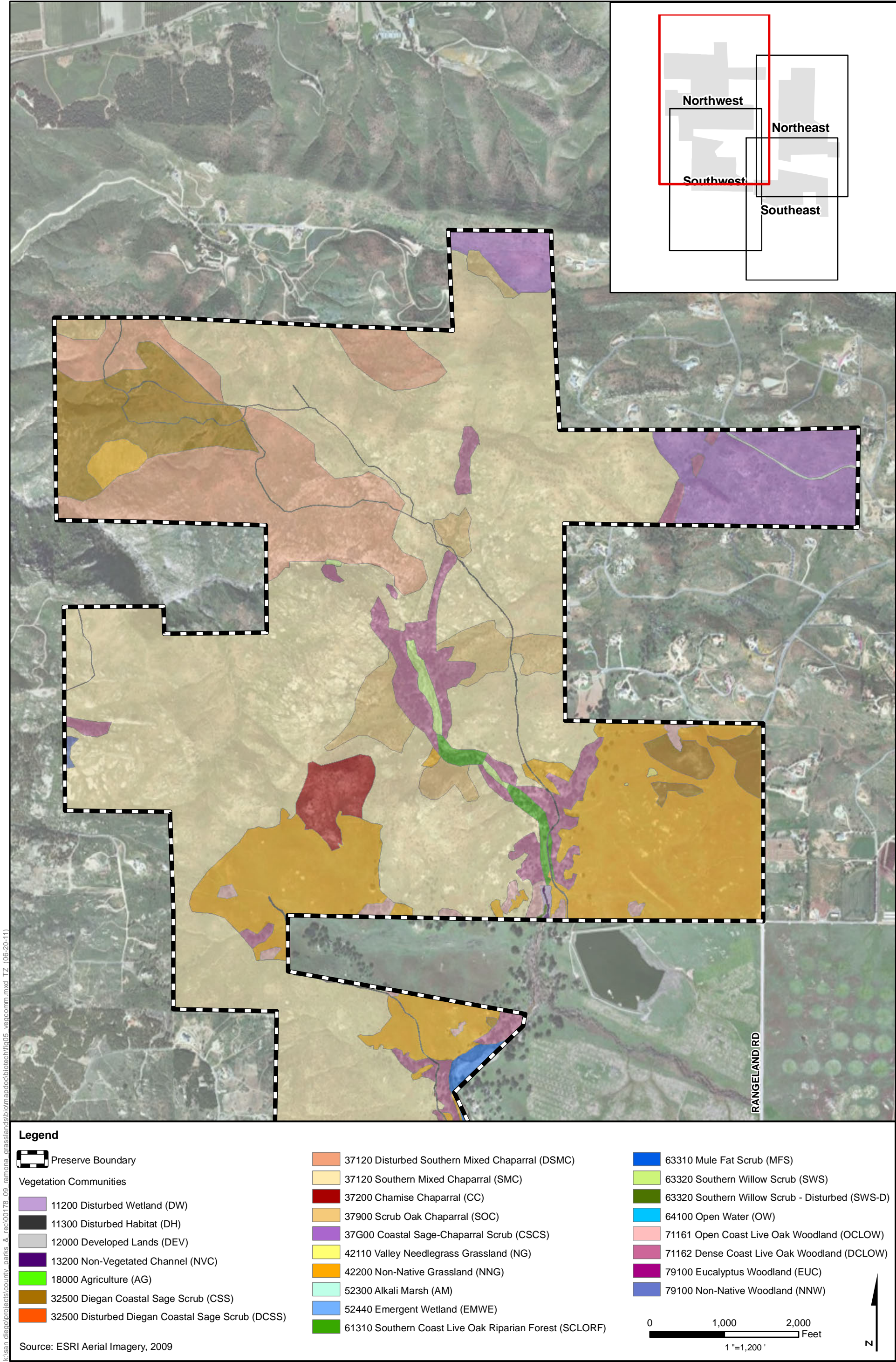


Figure 5a
Vegetation Communities within the Preserve
Biological Resources Report for Ramona Grasslands Preserve Project

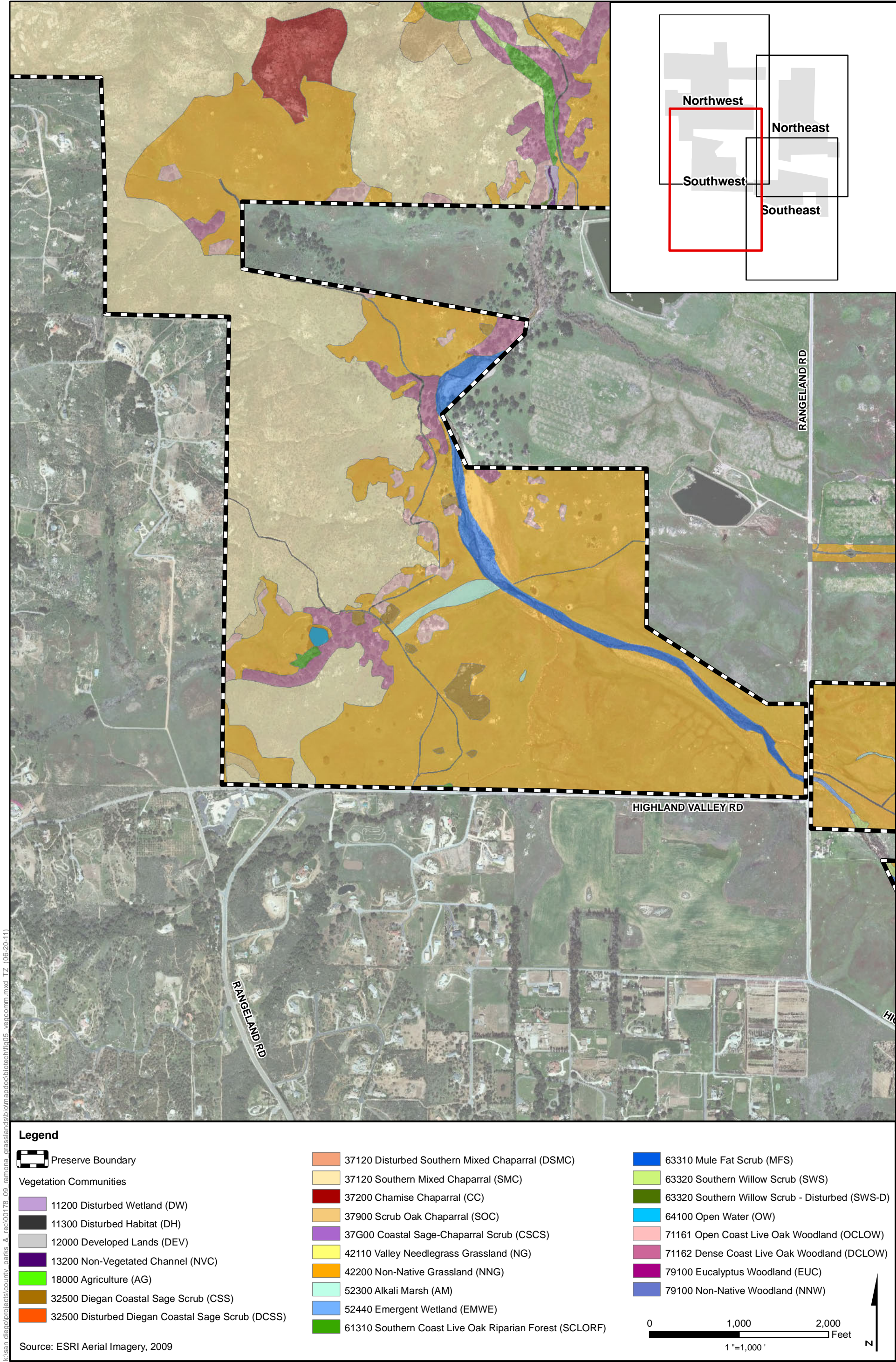
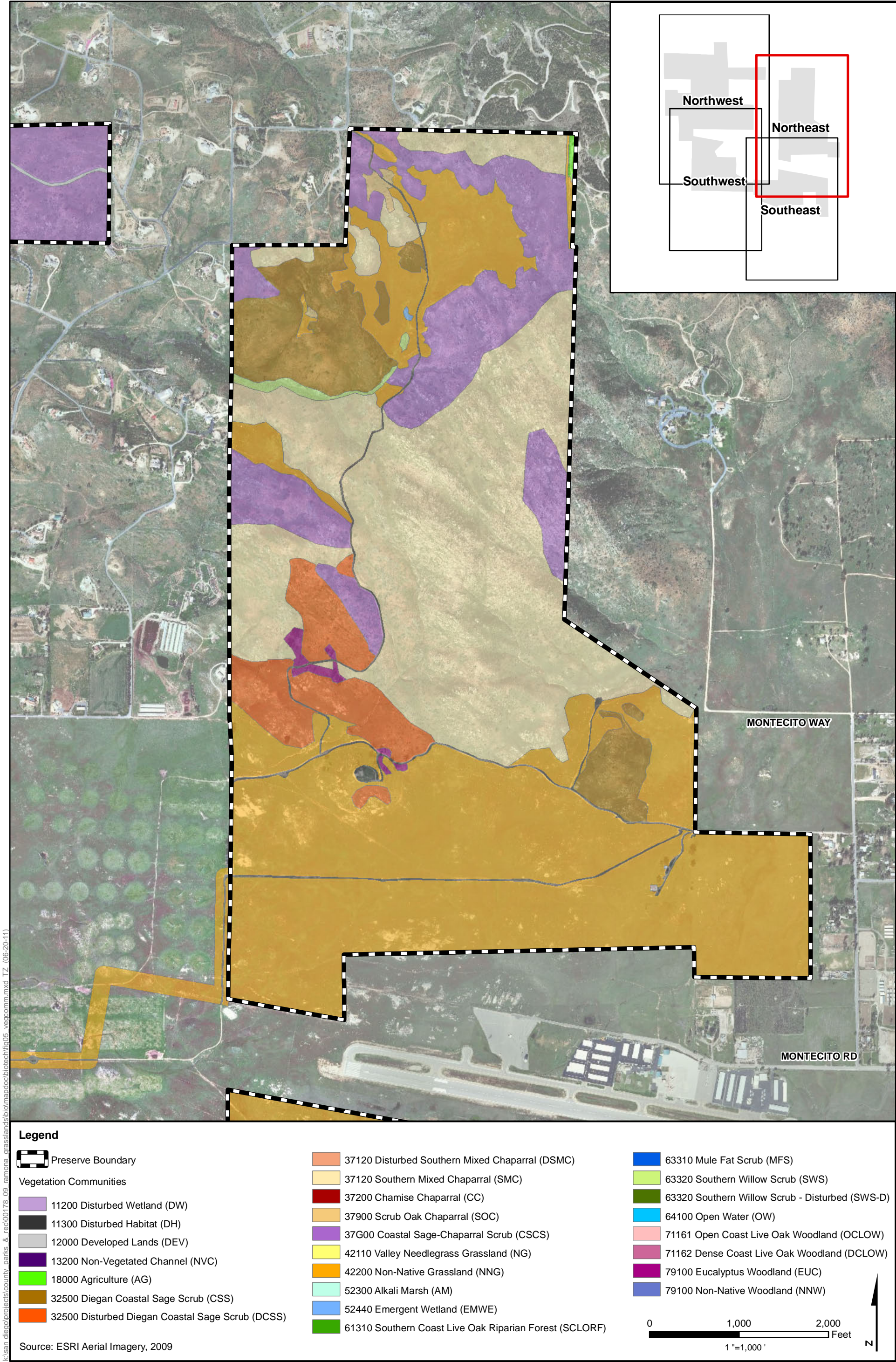
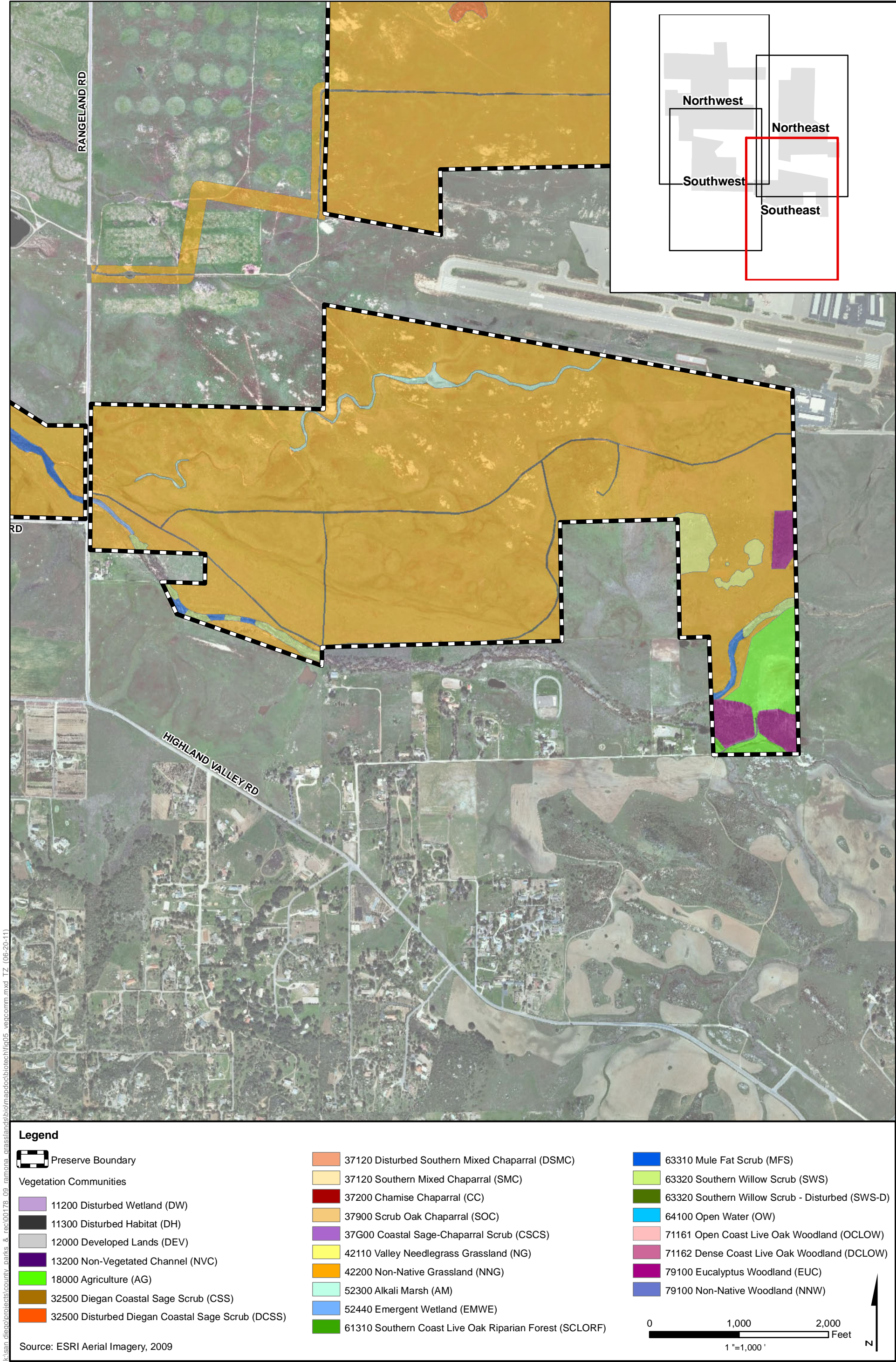


Figure 5b
Vegetation Communities within the Preserve
Biological Resources Report for Ramona Grasslands Preserve Project





1.4.3.5 Open Water (13100)

Open water refers to a body of water such as a lake or a pond. On the Preserve, open water consists of a stock pond located on the SW portion. This pond held water throughout the 2009 surveys and appears to be utilized by cattle year-round. No riparian vegetation such as cattails (*Typha* spp.) or willows (*Salix* sp.) surrounds the pond.

1.4.3.6 Agriculture (18000)

Agriculture consisted of a fenced pasture in the corner of the SE portion where cattle were more intensively grazed than the remainder of the Preserve.

1.4.3.7 Diegan Coastal Sage Scrub (32500)

Diegan coastal sage scrub is typically characterized by low, woody subshrubs that grow up to 1 meter (3 feet) in height (Holland 1986). Dominant species within the coastal sage scrub found on the Preserve include California buckwheat (*Eriogonum fasciculatum*), coastal sagebrush (*Artemisia californica*), deerweed (*Lotus scoparius*), and black sage (*Salvia mellifera*). Other species noted on site include nonnative grasses such as slender wild oat (*Avena barbata*), foxtail chess (*Bromus madritensis*), and fescue (*Vulpia myuros*). Diegan coastal sage scrub occurs in scattered patches throughout the Preserve generally on northwestern facing slopes. Currently, these areas are best described as small unburned patches mostly dominated by California buckwheat that cattle often graze through. There are two larger areas mapped as Diegan coastal sage scrub on the NE portion. These areas were burned in the 2007 Witch Fire and are slowly returning to a coastal sage scrub community. The abundance of nonnative species and the sparse distribution of typically dominant shrub species are the characteristics that distinguish disturbed Diegan coastal sage scrub from undisturbed Diegan coastal sage scrub. Disturbed Diegan coastal sage scrub is found on the NE portion in an area where nonnative grasses formed approximately 80% of the ground cover and coastal sage scrub species were present in patches. This area was burned and has signs of disturbance from cattle grazing. The wildlife species observed using the sparse shrubby areas were different from those that would use grasslands; therefore, the area is currently functioning as poorly developed coastal sage scrub.

1.4.3.8 Coastal Sage-Chaparral Scrub (37G00)

Coastal sage-chaparral scrub consists of a mixture of herbaceous and shrubby species that forms a community with features of both coastal sage scrub and chaparral (Holland 1986). Within the Preserve, this community appears to be a post-fire successional community. Dominant species include spiny redberry (*Rhamnus crocea*), chamise (*Adenostema fasciculatum*), black sage, California buckwheat, coastal sagebrush, foxtail chess, slender wild oat, deerweed, golden bush (*Hazardia squarrosa*), white sage (*Salvia apiana*), and short-pod mustard (*Hirschfeldia incana*). Coastal sage-chaparral scrub occurs on slopes in the northern peripheries of the NW portion and more extensively on the northern slopes of the NE portion.

1.4.3.9 Southern Mixed Chaparral (37120)

Southern mixed chaparral is a broad-leaved sclerophyll shrub community forming dense often impenetrable vegetation dominated by chamise, mission manzanita (*Xylococcus bicolor*), lilac (*Ceanothus oliganthus*), and scrub oak (*Quercus berberidifolia*) (Holland 1986). Other species

observed during the field surveys included Ramona lilac (*Ceanothus tomentosus*), laurel sumac (*Malosma laurina*), Mexican elderberry (*Sambucus mexicanus*), poison oak (*Toxicodendron diversilobum*), sugar bush (*Rhus ovata*), and toyon (*Heteromeles arbutifolia*). Southern mixed chaparral is the dominant scrub community on the western areas and also occurs on the slopes in the central portion of the NE portion. The abundance of nonnative species and the sparse distribution of typically dominant shrub species are the characteristics that distinguish disturbed southern mixed chaparral from undisturbed southern mixed chaparral. In the NW portion, the area mapped as disturbed is not recovering from the Witch Fire as successfully as the surrounding habitat. There is a much greater abundance of nonnative grasses.

1.4.3.10 Chamise Chaparral (37200)

Chamise chaparral is a 1–3 meter (3–6 foot) tall chaparral dominated by chamise and is well adapted to repeated fires (Holland 1986). Mature stands of chamise chaparral are densely interwoven shrubs with little herbaceous understory or litter. A patch of chamise chaparral occurs in the southern part of the NW portion.

1.4.3.11 Scrub Oak Chaparral (37900)

Scrub oak chaparral is a dense, evergreen chaparral to 6 meters (20 feet) in height, dominated by scrub oak, and can have a thick canopy that reaches the ground (Holland 1986). There are few understory plants and typically the understory consists of a substantial accumulation of leaf litter (Holland 1986). Other species associated with this community include chaparral whitethorn (*Ceanothus leucodermis*), toyon, and sugar bush. This community can be found scattered on north-facing slopes on the NW, NE, and SW portions.

1.4.3.12 Valley Needlegrass Grassland (42110)

Valley needlegrass grassland in southern California is typically characterized by native grass species in the genus *Nasella* (Holland 1986). Native grasslands usually occur in upland areas with little or no history of agricultural development. Small, isolated native grasslands occur on clay lenses, or in small pre-Pleistocene deposits of dense clay materials. Native and nonnative annuals occur in the gaps between the perennials (Holland 1986). The largest area of valley needlegrass grassland was mapped in the SE portion with a few smaller polygons in the NW portion.

1.4.3.13 Nonnative Grassland (42200)

Nonnative grassland is characterized by a dense to sparse cover of annual grasses reaching up to 1 meter (3 feet), which may include numerous native wildflowers, particularly in years of high rainfall (Holland 1986). These annuals germinate with the onset of the rainy season and set seeds in the late spring or summer. This community is usually found on fine-textured soils that proceed from moist or waterlogged in the winter to very dry during the summer and fall (Holland 1986). Nonnative grasslands, in many circumstances, have replaced native grasslands as a result of disturbance (directly human-made [e.g., mechanical disturbance, grazing] or natural [i.e., altered fire cycles]).

Nonnative grassland habitat characteristics within the Preserve have been heavily influenced by historical and current land uses, including cattle grazing. In addition, vegetative structure on the clay soils tends to be quite different from that on loamy soils. However, existing grassland community composition patterns are confounded by spatial patterns of grazing in the Preserve. Existing fences,

rock outcrops, water sources, and topography tend to concentrate cattle activity more in some areas than others, resulting in a mosaic of grazing intensities and habitat disturbance. Some areas far from water sources, and especially those on the clay soils at the eastern end of the SE portion, are lightly grazed, resulting in a dense cover of invasive nonnative annuals and accumulated thatch. Dominant plants observed within the clay grasslands include small flowered bindweed (*Convolvulus simulans*), California large-leaf filaree (*California macrophylla*), dwarf plantain (*Plantago erecta*), foxtail chess, slender wild oat, rip gut (*Bromus diandrus*), common tarweed (*Deinandra fasciculatum*), and graceful tarplant (*Holocarpha virgata* ssp. *elongata*). Dominant plants within the loamy grassland areas include saltgrass (*Distichlis spicata*), filaree (*Erodium* sp.), rip gut, slender wild oat, and foxtail chess.

1.4.3.14 Alkali Marsh or Alkali Playas (52300)

Alkali marsh is characterized by standing water or saturated soil present during most or all of the year where high evaporation and low input of fresh water increases the salt content in the marsh (Holland 1986). This habitat type can be found within the Santa Maria Creek floodplain, mostly north of the creek in the SW portion of the Preserve. Associated plant species include yerba mansa (*Anemopsis californica*), sedges (*Carex* spp.), rushes (*Juncus* spp.), southern cattail (*Typha domingensis*), and saltgrass. During the 2009 surveys, some areas that were previously mapped as freshwater marsh (RBF 2006) were mapped as alkali marsh because there were species present that were more consistent with Holland's description of alkali marsh than freshwater marsh—including salt grass, Mexican rush (*Juncus mexicanus*), and yerba mansa. However, Holland's description of alkali marsh explains that there are similarities between freshwater and alkali marsh and that the two communities can intergrade. The area should remain mapped as alkali marsh based on the species composition observed in 2009.

1.4.3.15 Emergent Wetland (52440)

Emergent wetland usually consists of pockets of slow moving water on the margins of streams that lack the well-developed, larger marsh or riparian plant species associations. This habitat provides valuable cover for amphibians, mammals, and birds. Plants associated with this habitat included cattail, viscid bulrush (*Schoenoplectus acutus* var. *occidentalis*), and sedges. Emergent wetland occurs along Santa Maria Creek in the southern section of the NW portion, in the western section of the SE portion, and also in a small patch in the northern section of the NE portion.

1.4.3.16 Disturbed Wetland (11200)

This land cover type was mapped during the 2011 formal jurisdictional delineation of the proposed crossing of Santa Maria Creek in the NW portion of the Preserve and consists of the vegetated active floodplain adjacent to the open channel. This area supported yerba mansa and Mexican rush, as well as upland grasses such as wild oats.

1.4.3.17 Non-Vegetated Channel (13200)

This land cover type was mapped during the 2011 formal jurisdictional delineation of the proposed crossing of Santa Maria Creek in the NW portion of the Preserve and consists of the open channel, which during the delineation supported flowing water.

1.4.3.18 Southern Coast Live Oak Riparian Forest (61310)

Southern coast live oak riparian forest is found in bottomlands and outer floodplains along larger streams, on fine-grained rich alluvium (Holland 1986). It consists of a dense evergreen riparian forest dominated by coast live oak (*Quercus agrifolia*) (Holland 1986). There are two patches of southern coast live oak riparian forest within the Santa Maria Creek channel in the NW portion, one in the western section of the SW portion adjacent to the stock pond, and a small patch adjacent to Highland Valley Road on the south side of the SW portion.

1.4.3.19 Mule Fat Scrub (63310)

Mule fat scrub is described as a depauperate, tall, herbaceous riparian scrub dominated by mule fat (*Baccharis salicifolia*) (Holland 1986). Mule fat scrub is usually found in intermittent stream channels with fairly coarse substrate and moderate depth to the water table, and requires frequent flooding (Holland 1986). If frequent flooding does not occur, mule fat scrub commonly succeeds to cottonwood- or sycamore-dominated riparian forests or woodlands (Holland 1986). Mule fat scrub occurs within the Santa Maria Creek channel on the southern areas.

1.4.3.20 Southern Willow Scrub (63320)

Southern willow scrub is found on loose, sandy, or fine gravelly alluvium deposited near stream channels (Holland 1986). This habitat was once extensive along the major rivers of coastal southern California, but has been greatly reduced by urbanization, flood control, and streambed improvements (Holland 1986). Southern willow scrub is described as dense, broad-leaved, winter-deciduous riparian thickets dominated by several *Salix* species, with sub-dominants such as mule fat that are often too dense to support a well developed herbaceous understory (Holland 1986). Fremont cottonwoods (*Populus fremontii*) and western sycamores (*Platanus racemosa*) are scattered in the scrub as seedlings or saplings. Southern willow scrub occurs in three patches in the Santa Maria Creek on the NW portion, with several other patches along the Santa Maria Creek on the SW portion. It can also be found in a drainage in the northern section of the NE portion.

1.4.3.21 Open Coast Live Oak Woodland (71161)

Open coast live oak woodland consists of an open canopy of coast live oak trees that reach 10–25 meters (33–82 feet) in height (Holland 1986). The understory can be variable, with shrubs recruited from surrounding chaparral and sage scrub communities forming dense, impenetrable stands, or it can be more open with scattered shrubs with a more herbaceous understory (Holland 1986). Typical understory species include toyon, chamise, and lilacs (*Ceanothus* spp.). There are scattered patches of open coast live oak woodland throughout the Preserve, usually on the peripheries of areas with dense coast live oak woodland.

1.4.3.22 Dense Coast Live Oak Woodland (71162)

Dense coast live oak woodland consists of a closed canopy of coast live oak trees, usually with trees in denser groupings than in open coast live oak woodland. Understory vegetation is made up of more shade tolerant shrubs and herbs such as toyon, various native ferns (*Polypodium* sp., *Cheilanthes* spp.), or a thick layer of litter. Dense coast live oak woodland occurs along the Santa Maria Creek in the western areas and western hills of the SW portion. There are also scattered patches of this community where soils and hydrology allow this community to develop.

1.4.4 Flora

Appendix B of the Baseline Biodiversity Report (County 2010) lists all floral species observed within the Preserve. The common plant species within the Preserve are consistent with those typically found within the vegetation communities on the Preserve (see Section 1.4.3 above). Sensitive plant species observed within the Preserve, or those that have a high potential to occur within the Preserve, are discussed in Section 1.4.6.

1.4.5 Fauna

Appendix D of the Baseline Biodiversity Report (County 2010) lists all wildlife species observed within the Preserve. The common wildlife species detected or observed within the Preserve are consistent with those typically found within the vegetation communities on the Preserve (see Section 1.4.3 above). Sensitive wildlife species detected or observed within the Preserve, or those that have a high potential to occur within the Preserve, are discussed in Section 1.4.7.

1.4.6 Sensitive Plant Species

The following section discusses special-status plant species observed within the Preserve. A special-status plant species is one listed by federal or state agencies as threatened or endangered; considered to be of special status by one or more special interest groups, such as the California Native Plant Society (e.g., CNPS List 1, 2, 3, and 4 Plant Species); or is included on the County's Sensitive Plant list (List A, B, C, or D Plants).

Special-status plant species detected include ashy spike-moss (*Selaginella cinerascens*), San Diego thornmint (*Acanthominta ilicifolia*), California adder's tongue (*Ophioglossum californicum*), southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*), Coulter's saltbush (*Atriplex coulteri*), Parish's brittlescale (*Atriplex parishii* var. *parishii*), southern tarplant (*Centromadia parryi* ssp. *australis*), Palmer's sagewort (*Artemisia palmeri*), graceful tarplant (*Holocarpha virgata* ssp. *elongata*), rush chaparral-star (*Xanthisma junceum*), field bindweed (*Convolvulus simulans*), San Diego milkvetch (*Astragalus oocarpus*), Engelmann oak (*Quercus engelmannii*), California large-leaf filaree (*California macrophylla*), vernal barely (*Hordeum intercedens*), and Ramona spineflower (*Chorizanthe leptotheca*) (Figure 6).

1.4.6.1 Special-Status Plant Species Observed

Ashy Spike-Moss (*Selaginella cinerascens*)

CNPS List 4, San Diego County List D

Ashy spike-moss is typically found in undisturbed chaparral and Diegan coastal sage scrub (Reiser 1994). The species prefers undisturbed soils (Reiser 1994). This species is a common understory element within the chaparral habitats containing exposed rock outcrops and open soils in the NE and NW portions of the Preserve. Due to the abundance of this species within the Preserve, point locations were not mapped.

San Diego Thornmint (*Acanthomintha ilicifolia*)

Federally Threatened, State Endangered, CNPS List 1B, San Diego County List A, North County MSCP Covered Species

San Diego thornmint is an annual wildflower typically found on friable clay soils in grassy openings within chaparral. A small population of San Diego thornmint was observed within the nonnative grassland habitat south of the Ramona Airport in the SE portion of the Preserve (Figure 6). This population occurs on heavy, friable clay soils. Approximately 30 individuals of this species were observed in 2009. It is assumed that the population is typically larger in years of average to above average rainfall.

California Adder's Tongue (*Ophioglossum californicum*)

CNPS List 4, San Diego County List D

California adder's tongue is a rhizomatous herb closely associated with vernal pools, seeps, and vernal moist locales within open chaparral and grasslands (Reiser 1994, CNPS 2009). Within the Preserve, this species was found in a moist swale in the NE portion.

Southwestern Spiny Rush (*Juncus acutus* ssp. *leopoldii*)

CNPS List 4, San Diego County List D

Southwestern spiny rush is a rhizomatous herb found in seeps, meadows, salt marsh, and coastal dunes, usually occurring in wetlands, but occasionally found in non-wetlands (CNPS 2009). Potential habitat includes areas where water can pond along substantial seasonal drainages (Reiser 1994). Southwestern spiny rush was observed within an ephemeral drainage in the NE portion (Figure 6).

Coulter's Saltbush (*Atriplex coulteri*)

CNPS List 1B, San Diego County List A, North County MSCP Covered Species

Coulter's saltbush is a perennial herb typically found on coastal bluffs and dunes and in coastal scrubs but can occur in valley and foothill grasslands with alkaline or clay soils (Reiser 1994, CNPS 2009). This species was found on alkali flats within the SE portion.

Parish's Brittlescale (*Atriplex parishii* var. *parishii*)

CNPS List 1B, San Diego County List A, North County MSCP Covered Species

Parish's brittlescale is an annual herb found in playas or vernal pools associated with alkali sinks and freshwater wetlands (CNPS 2009). This species was found on alkali flats within the SE portion.

Southern Tarplant (*Centromadia parryi* ssp. *australis*)

CNPS List 1B, San Diego County List A, North County MSCP Covered Species

Southern tarplant is an annual herb typically associated with marshes, valley grassland, vernal pools, and other alkaline locations and is usually found in areas surrounded by nonnative weeds (CNPS 2009). On the Preserve, this species was dominant within the swale and vernal pool features on the SW, SE, and NE portions.

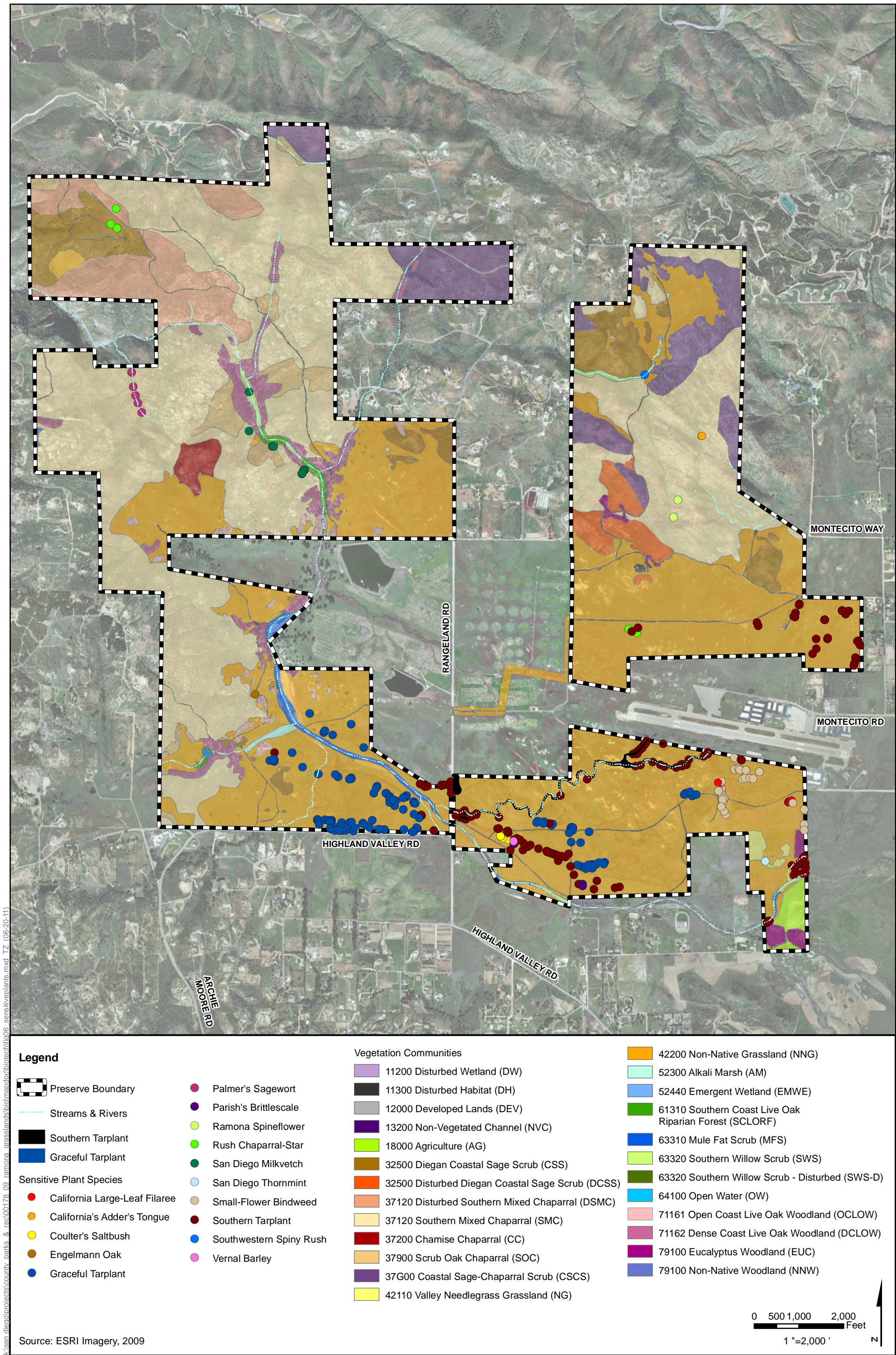


Figure 6
Sensitive Plant Species Detected within the Preserve
Biological Resources Report for Ramona Grasslands Preserve Project

Palmer's Sagewort (also known as San Diego Sagewort) (*Artemisia palmeri*)

CNPS List 4, San Diego County List D

Palmer's sagewort is a deciduous shrub typically found along creeks and drainages near the coast and inland within mesic chaparral conditions (Reiser 1994, CNPS 2009). On the Preserve, this species was found along Santa Maria Creek within the NW portion.

Graceful Tarplant (*Holocarpha virgata* ssp. *elongata*)

CNPS List 4, San Diego County List D

Graceful tarplant is an annual herb that is typically found within annual and perennial grasslands but can occur within coastal sage scrub and chaparral (Reiser 1994, CNPS 2009). Within the Preserve, this species was found frequently in areas of nonnative grassland on the SE and SW portions.

Rush Chaparral-Star (*Xanthisma junceum*) (also known as *Machaeranthera juncea*)

CNPS List 4, San Diego County List D

Rush chaparral-star is a perennial herb associated with low growing chamise chaparral and Diegan sage scrub communities (CNPS 2009). It prefers exposed locales with rocky substrates (Reiser 1994). On the Preserve, this species was found on the northern slopes of the NW portion.

Small-Flower Bindweed (also known as Small-Flowered Morning-Glory) (*Convolvulus simulans*)

CNPS List 4, San Diego County List D

Small-flower bindweed is an annual herb typically found on clay soils devoid of shrubs, and also in openings in chaparral, sage scrub, and grassland (Reiser 1994, CNPS 2009). On the Preserve, it was found in openings with clay soils in nonnative grassland in the SE portion.

San Diego Milkvetch (*Astragalus oocarpus*)

CNPS List 1B, San Diego County List A

San Diego milkvetch is a perennial herb typically found at the edges of cismontane chaparral along the periphery of meadows. Other plant species associated with San Diego milkvetch include manzanita (*Arctostaphylos* sp.), chamise, and other woody shrubs. On the Preserve, San Diego milkvetch was observed in the NW portion on the periphery of the coast live oak woodland overstory. This population represents a significant western extension of the known range of San Diego milkvetch. Typically, San Diego milkvetch occurs within the eastern portion of San Diego County (near Ranchita or McCain Valley) at elevations higher than the Preserve.

Engelmann Oak (*Quercus engelmannii*)

CNPS List 4, San Diego County List D, North County MSCP Covered Species

Engelmann oak is commonly found in the foothills between 152 and 1,219 meters (500 and 4,000 feet) AMSL. Growing to 12 meters (40 feet) tall, this tree has flat, grey-blue-green leaves and tolerates less water than coast live oak. Larger oaks are sometimes found growing in savannah grasslands but it may also occur as a shrubby element within chaparral. Engelmann oaks are still relatively abundant throughout their range in southern California. One Engelmann oak occurs in the SW portion.

California Large-Leaf Filaree (*California macrophylla*)

CNPS List 1B, San Diego County List B

California large-leaf filaree is an annual herb found in cismontane woodlands and valley and foothill grasslands in open habitat on friable clay soils (CNPS 2009). On the Preserve, several populations were observed in the clay soils in the SE portion.

Vernal Barley (*Hordeum intercedens*)

CNPS List 3, San Diego County List C

Vernal barley is an annual grass that typically occurs in coastal dunes, coastal scrub, valley and foothill grassland, and vernal pools. On the Preserve, vernal barley was observed in alkali soils in the SE portion.

Ramona Spineflower (*Chorizanthe leptotheca*)

CNPS List 4, San Diego County List D

Ramona spineflower is a small annual that is found within dry openings in chamise chaparral, coastal sage scrub, or lower montane coniferous forest (Reiser 1994, CNPS 2009). Species were observed on the south-facing slopes of the NE portion in the openings in the burned chaparral.

1.4.6.2 Special-Status Plant Species with High Potential to Occur

Payson's Caulanthus (Also known as Payson's Jewelflower) (*Caulanthus simulans*)

CNPS List 4, San Diego County List D

Payson's caulanthus is an annual herb associated with chaparral and coastal sage scrub communities (CNPS 2009). This species was not observed on the Preserve in 2009 but is considered to have a high potential to occur on site due to the abundance of suitable habitat on site.

Spreading Navarretia (*Navarretia fossalis*)

Federally Threatened, CNPS List 1B, San Diego County List A, MSCP Covered Species (North and South County)

Spreading navarretia is a wetland plant that is typically found in chenopod scrub, shallow freshwater marshes, playas, and vernal pools. Spreading navarretia was documented just east of the

Preserve in 2005 (CDFG 2009), and suitable habitat for this special-status species occurs throughout a large portion of the grassland habitats. Designated critical habitat for spreading navarretia occurs in the northeastern area of the SE Portion (Figure 4). The 2009 rainy season was below average, and this species was not detected during the focused rare plant surveys. The 2010 rainy season was normal to above average. Therefore, updated focused surveys were initiated in March 2010. No individuals of this species were detected within the Preserve during the 2010 surveys.

Little Mousetail (*Myosurus minimus*)

CNPS List 3, San Diego County Group C

Little mousetail typically grows in the deeper portions of vernal pool basins (Reiser 1994). This species sprouts immediately after the surface water has evaporated, and the stature of plants and population densities are strongly tied to yearly rainfall levels (Reiser 1994). Little mousetail is considered to have a high potential to occur in the vernal pools and vernal swales that occur within the lower grasslands. This species has been historically documented in the Ramona grasslands. Updated focused surveys for this species were initiated in March 2010. No individuals of this species were detected within the Preserve during the 2010 surveys.

Delicate Clarkia (also known as Campo Clarkia) (*Clarkia delicata*)

CNPS List 1B, San Diego County Group A

Delicate clarkia is an annual wildflower that is typically found on the periphery of oak woodland habitats and within cismontane chaparral. High density populations of delicate clarkia are known to occur immediately west of the Preserve. Due to the presence of suitable habitat on site and the Preserve's proximity to extant populations, delicate clarkia has a high potential to occur on site.

1.4.7 Sensitive Animal Species

1.4.7.1 Special-Status Wildlife Species Observed

In total, 40 special-status wildlife species were detected during the 2009 survey at the Preserve (Figure 7). Two special-status amphibian species were detected: arroyo toad and western spadefoot. There were 7 special-status reptile species detected—San Diego horned lizard, Coronado skink, Belding's orange-throated whiptail, coastal western whiptail, coastal rosy boa, two-striped garter snake, and northern red diamond rattlesnake—and 16 special-status bird species detected: great blue heron, turkey vulture, Cooper's hawk, red-shouldered hawk, ferruginous hawk, golden eagle, barn owl, burrowing owl, vermilion flycatcher, loggerhead shrike, California horned lark, western bluebird, yellow warbler, southern California rufous-crowned sparrow, grasshopper sparrow, and tricolored blackbird. There were 15 special-status mammal species detected—10 bat species, Dulzura pocket mouse, northwestern San Diego pocket mouse, Stephens' kangaroo rat, San Diego desert woodrat, and southern mule deer. See Figure 7 for locations of special-status species detected during surveys of the Preserve. See Appendix G of the Baseline Biodiversity Report (County 2010) for additional conservation analysis information for burrowing owl, ferruginous hawk, golden eagle, SKR, and vernal pools/fairy shrimp.

Invertebrates

San Diego Fairy Shrimp (*Branchinecta sandiegonensis*)

Federally Endangered, San Diego County Group I, MSCP Covered Species (North and South County)

San Diego fairy shrimp are small invertebrates that are found in small shallow vernal pools (USFWS 2002b). This species is found in southwestern coastal California and extreme northwestern Baja California, Mexico, with all known localities below 700 meter (2,300 feet) and within 65 kilometers (40 miles) of the Pacific Ocean, from Santa Barbara County south to northwestern Baja California (USFWS 1997, 2002b). The species can also occur in road ruts and ditches that provide suitable conditions for the species. Water temperature is an important factor for this fairy shrimp. The water must not get too hot (above 86°F [30°C]) or too cold (below 41°F [4°C]) for this species to occur (USFWS 2002b).

Designated critical habitat for the San Diego fairy shrimp exists in the southeast area of the SW Portion and in almost the entire SE Portion, primarily in the vernal pool habitat (Figure 4). San Diego fairy shrimp are known to occur in the vernal pools in the SE (CBI 2007) and SW portions (Mooney & Associates 2005). Given the available data on San Diego fairy shrimp within the Preserve, focused surveys were not conducted in 2009. However, fairy shrimp surveys were conducted in 2010 in association with the updated surveys for spreading navarretia and little mousetail. The 2010 wet season fairy shrimp surveys confirmed the presence of San Diego fairy shrimp in some of the vernal pools located in the SE portion of the Preserve; however, fairy shrimp were not observed in 2010 in the pools located in the SW portion of the Preserve.

Herpetofauna

Arroyo Toad (*Bufo californicus*)

Federally Endangered, San Diego County Group I, North County MSCP Covered Species

The arroyo toad is endemic to the coastal plains, mountains, and desert slopes of central and southern California and northwestern Baja California from near sea level to about 2,400 meters (8,000 feet). Within these areas, the arroyo toad is found in both perennial and intermittent rivers and streams with shallow, sandy to gravelly pools adjacent to sand or fine gravel terraces. This species has evolved in a system that is inherently dynamic, with marked seasonal and annual fluctuations in rainfall and flooding. Breeding habitat requirements are highly specialized. Specifically, arroyo toads require shallow slow-moving stream and riparian habitats that are naturally disturbed on a regular basis, primarily by flooding (USFWS 2000).

The breeding period occurs from late January or February to early July, although it can be extended in some years depending on weather conditions. Breeding in mountainous habitats may commence later (May–June) and last longer (to August) than in the coastal portion of the range. Breeding occurs in quiet, clear backwaters of streams as waters recede from the floods of the wet season. When water temperatures reach 57°F (14°C), adult males advertise with a soft, high- whistled trill. Males call from suitable breeding habitat at night. Receptive females seek out calling males based on the size of the male and the sound of his call. Little is known about movements or other behavior in the non-breeding season (USFWS 2000). Adult arroyo toads spend most of the year in burrows in upland habitat near washes and streams. Non-breeding habitat includes sage scrub, mixed chaparral, and oak woodland.

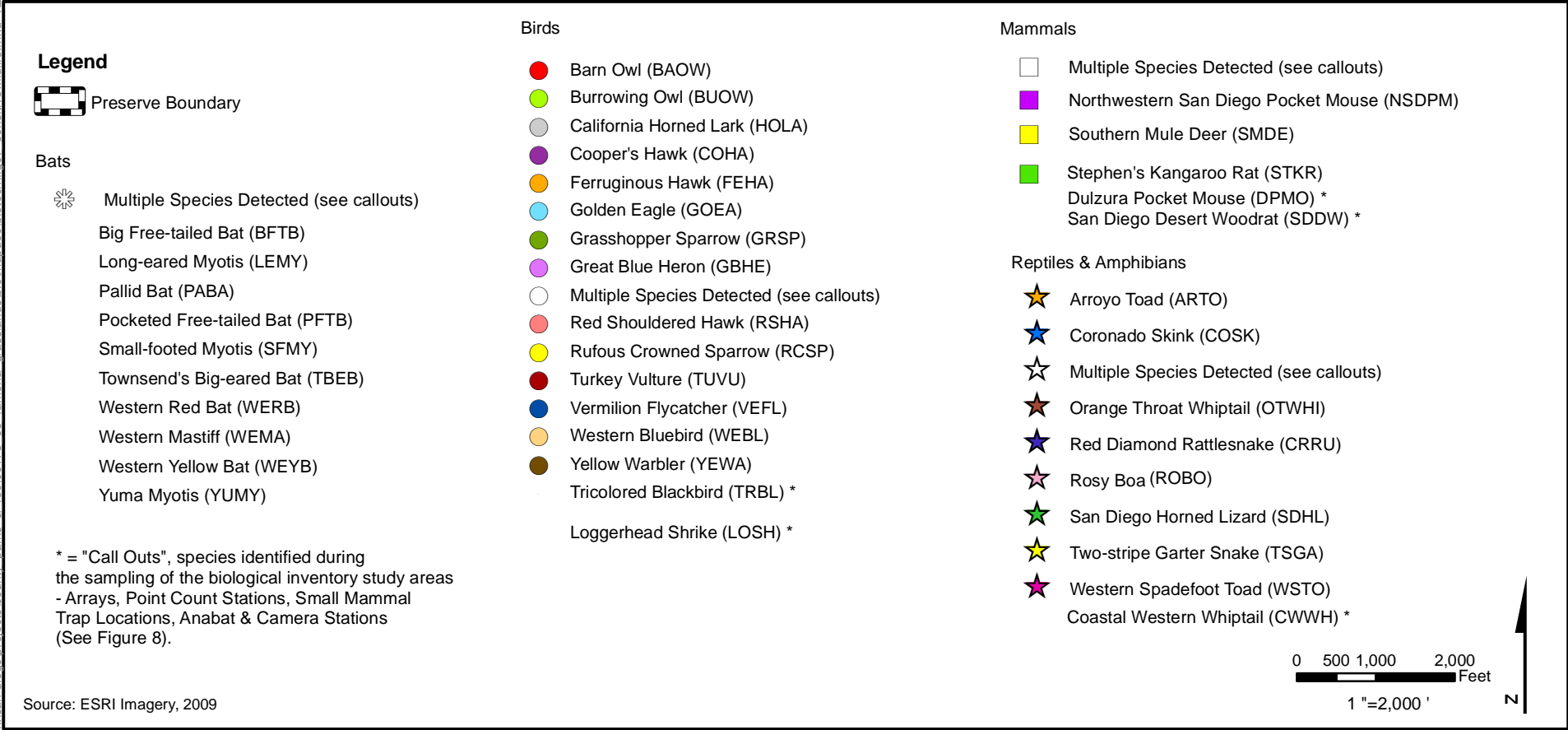
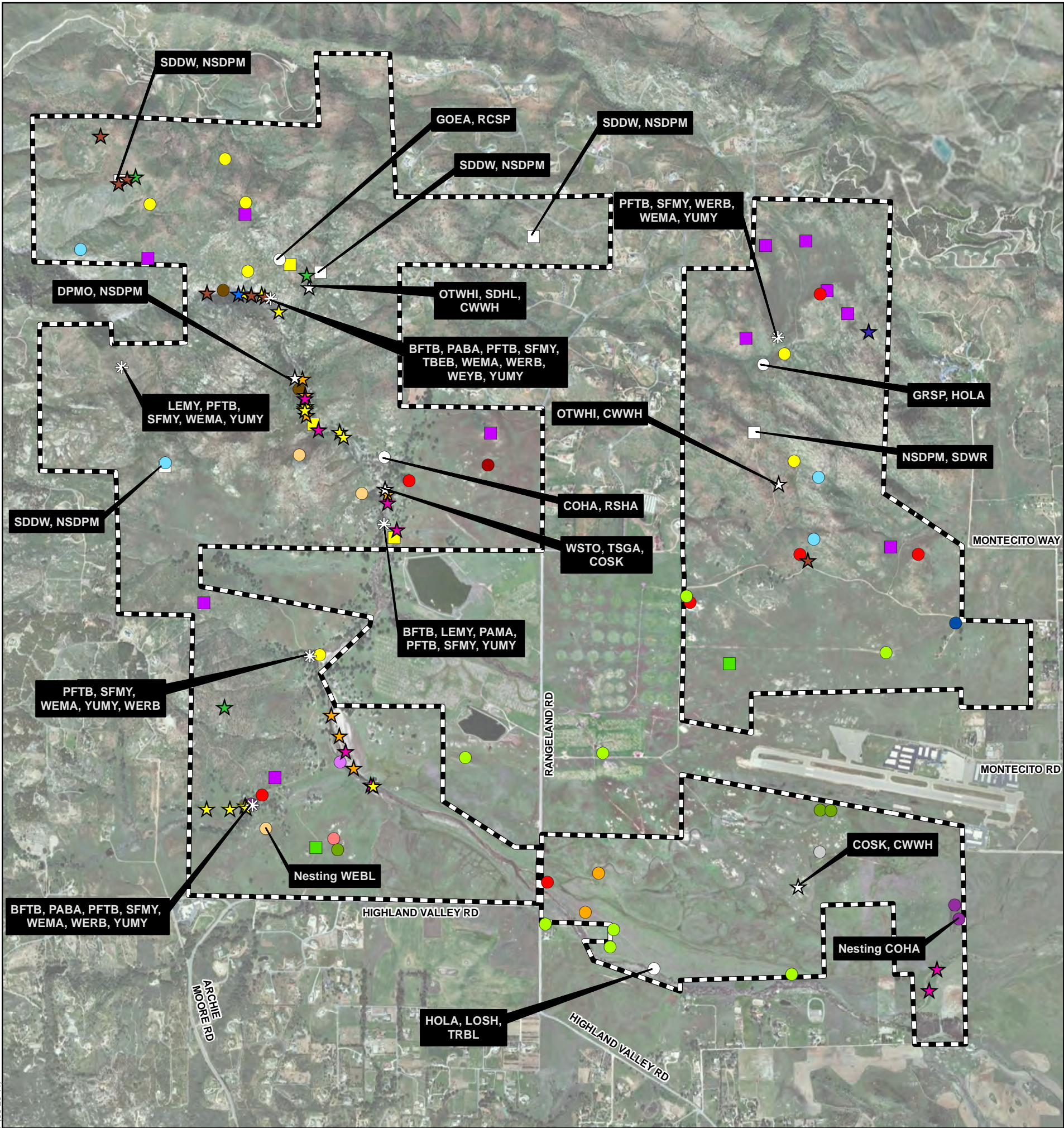


Figure 7
Sensitive Wildlife Species Detected within the Preserve
Biological Resources Report for Ramona Grasslands Preserve Project

Designated critical habitat for arroyo toad exists within the Preserve along Santa Maria Creek within the eastern area of the SW Portion continuing into the SE Portion (Figure 4). Adult and tadpole arroyo toad were observed within Santa Maria Creek west of Rangeland Road within the western portions of the Preserve. These sections of the creek contain high quality habitat as defined by the habitat assessment protocol detailed in the Marine Corps Base Camp Pendleton Arroyo Toad Monitoring Protocol (Atkinson et al. 2002). This model uses three physical characteristics to assess the potential to support breeding arroyo toad: (1) channel substrate type being predominantly composed of sand, (2) the presence of flat sandy terraces immediately adjacent to channel, and (3) having a watercourse of braided channels.

Western Spadefoot (*Spea* [= *Scaphiopus*] *hammondi*)

State Species of Special Concern, San Diego County Group II, North County MSCP Covered Species

The western spadefoot range covers the central portion of northern California, the Great Valley, and Coast Ranges from San Francisco to Baja California (Lemm 2006). Although they spend the majority of their life outside water, they require temporary rain pools with water temperatures between 48° and 86°F (9° and 30° C) lasting upwards of 3 weeks. For successful breeding to occur these pools must also lack predators of eggs and tadpoles such as introduced fishes, bullfrogs, and crayfishes (Jennings and Hayes 1994). Vernal pools are sometimes occupied by western spadefoot, but in all cases the species must have access to soils suitable for digging to allow aestivation during the dry season. Tolerance of disturbance is high where conditions are otherwise suitable, and the species is sometimes found in pools, even adjacent to roads, resulting from landscape modification.

As detailed above, an adult of this species was observed in Array #5 (County 2010), and several individuals were observed in Santa Maria Creek during focused arroyo toad surveys. In addition, tadpoles of this species were observed in a small pool south of the creek in the southeastern corner of the Preserve. The sandy substrate associated with Santa Maria Creek provides ideal burrowing habitat, while the pools in and within proximity to the Creek are appropriate for breeding. Based on the number of individuals observed during arroyo toad surveys, the abundance of appropriate breeding pools, and the presence of foraging habitat along Santa Maria Creek, this species is presumed to be abundant within the Preserve.

San Diego Horned Lizard (*Phrynosoma coronatum blainvillii*)

State Species of Special Concern, San Diego County Group II, North County MSCP Covered Species

The San Diego horned lizard is a large lizard that historically was found in Kern, Los Angeles, Santa Barbara, and Ventura Counties southward to Baja California, Mexico. Horned lizards inhabit a variety of vegetation communities including coastal sage, annual grassland, chaparral, oak woodland, riparian woodland, and coniferous forest (Stebbins 2003). Loose, fine soils with a high sand content, an abundance of prey, and open areas with limited overstory typify suitable habitat for this species (Jennings and Hayes 1994). The San Diego horned lizard's insectivorous diet consists mostly of native harvester ants (*Pogonomyrmex* sp.), which make up over 90% of its prey; however, it is an opportunistic feeder that will take other insects including termites, beetles, flies, wasps, and grasshoppers (Stebbins 2003, Jennings and Hayes 1994).

This species has disappeared from about 45% of its former range, and a number of factors have led to this decline including habitat fragmentation and degradation, loss of native prey to exotic species, and extensive collection for the curio trade (Jennings and Hayes 1994). The specialized diet of

harvester ants has made horned lizards especially vulnerable to extirpation since the introduction of Argentine ants (*Linepithema humile*). The San Diego horned lizard was captured in Array #6 located in the NW portion of the Preserve and was observed in the NW and SE portions of the Preserve (County 2010). This species has potential to occur throughout the scrub and chaparral habitats on the Preserve.

Coronado Skink (*Eumeces skiltonianus interparietalis*)

State Species of Special Concern, San Diego County Group II

The Coronado skink is a medium-sized secretive lizard that is typically found in the moister areas of coastal sage, chaparral, oak woodlands, piñon-juniper, riparian woodlands, and pine forests (Jennings and Hayes 1994). Its prey includes small invertebrates found in leaf litter or dense vegetation at the edges of rocks and logs. The Coronado skink is found along the coastal plain and Peninsular Ranges west of the deserts from approximately San Geronio Pass in Riverside County south to San Quentin, Mexico (Jennings and Hayes 1994). On the Preserve, this species was captured in Arrays #3 and #5 and observed in the NW and SE portions of the Preserve (County 2010). Given the variety and abundance of habitats that provide moist areas or are in proximity to moist areas on the Preserve, this species has the potential to occur throughout the Preserve.

Belding's Orange-Throated Whiptail (*Cnemidophorus hyperythrus beldingi*)

State Species of Special Concern, San Diego County Group II, North County MSCP Covered Species

The Belding's orange-throated whiptail is a medium-sized lizard that ranges from southern California (specifically Corona del Mar in Orange County and Colton in San Bernardino County) southward to the tip of Baja California, Mexico. Historically, most populations of the orange-throated whiptail were found on floodplains or terraces along streams in brushy areas with loose soil and rocks (McGurty 1980). Habitat types they are known to use include chaparral, nonnative grassland, coastal sage scrub, juniper woodland, and oak woodland. California buckwheat (*Eriogonum fasciculatum*) is an important indicator of appropriate habitat for orange-throated whiptails (Dudek 2000). This plant species is a colonizer of disturbed, sandy soils and usually indicates open shrub spacing that is required for whiptail foraging and thermoregulatory behavior. Orange-throated whiptails appear to be dietary specialists with most (> 85%) of their prey being termites (Dudek 2000). The decline of orange-throated whiptails is likely due to loss of habitat to agriculture and urban development. On the Preserve, this species was captured at Arrays #1, #2, and #6 and observed during active surveys in the chaparral and scrub habitats (County 2010). This species is presumed to be abundant within the Preserve.

Coastal Western Whiptail (*Cnemidophorus tigris multiscutatus*)

San Diego County Group II

Coastal western whiptail is a medium-sized slender lizard that is found in arid and semiarid desert to open woodlands where the vegetation is sparse so running is easy (Stebbins 2003). Its range includes coastal southern California and western Baja California. The decline of coastal western whiptails is likely due to loss of habitat to agriculture and urban development. On the Preserve, this species was captured at Arrays #2 and #6 (County 2010). This species is presumed to be abundant within the Preserve.

Coastal Rosy Boa (*Charina trivirgata roseofusca*)

San Diego County Group II

Coastal rosy boas are heavy-bodied snakes that inhabit arid scrublands, semi-arid and rocky shrublands, rocky deserts, canyons, and other rocky areas (Stebbins 2003). This species eats rodents, small birds, lizards, small snakes, and amphibians and kills its prey by constriction. Coastal rosy boas occur in southwestern California from the coastal slopes of the San Gabriel and San Bernardino Mountains, and across the peninsular ranges into the desert in San Diego County (Stebbins 2003). Threats to this species include habitat degradation and fragmentation from urban development. On the Preserve, this species was observed in a rocky area in the NW portion, south of Santa Maria Creek.

Two-Striped Garter Snake (*Thamnophis hammondi hammondi*)

State Species of Special Concern, San Diego County Group I, North County MSCP Covered Species

Two-striped garter snake occurs west of the deserts and Central Valley from Salinas, Monterey County, south into Baja California, and at elevations from sea level up to about 2,438 meters (8,000 feet) in the San Jacinto Mountains (Jennings and Hayes 1994). It is often in water and rarely found far from it, though it is also known to inhabit intermittent streams having rocky beds bordered by willow thickets or other dense vegetation (Jennings and Hayes 1994). Two-striped garter snake will also inhabit large riverbeds such as those of the Santa Ana and Santa Clara Rivers if riparian vegetation is available, and even will occur in artificial impoundments if both aquatic vegetation and suitable prey items (small amphibians and fish) are present (Jennings and Hayes 1994). Declines are attributable directly to loss of riparian habitats. On the Preserve, this species was captured in Arrays #4 and #5 (County 2010), and observed on several occasions during active surveys in Santa Maria Creek and near the pond in the southwestern corner of the SW portion. This species is presumed to be abundant near perennial water within the Preserve.

Red Diamond Rattlesnake (*Crotalus ruber ruber*)

State Species of Special Concern, San Diego County Group II, North County MSCP Covered Species

The red diamond rattlesnake is a large, heavy-bodied rattlesnake that has a wide tolerance for varying environments and can be found in a variety of vegetation types, but it is most commonly seen in areas with heavy brush and cacti, rocks, or boulders (Stebbins 2003). The known range extends from San Bernardino County along the coastal and desert slopes southward to Baja California. Adult red diamond rattlesnakes eat mostly squirrels and rabbits, but lizards, specifically the western whiptail, are a significant food source for juveniles (Jennings and Hayes 1994). Urban development and the trend towards planting orchards on steeper rocky hillsides have significantly decreased the amount of appropriate habitat for this species (Jennings and Hayes 1994). This species was observed in the rocky coastal sage chaparral scrub in the NE portion. This species has potential to occur throughout the oak, scrub, and chaparral habitats on the Preserve.

Birds

Great Blue Heron (*Ardea herodias*)

San Diego County Group II

The great blue heron is a large water bird that can be found in any type of wetland and is typically a colonial breeder that nests in trees near water (Unitt 2004); however, breeding has been documented by isolated pairs and in the absence of trees. Great blue herons will nest in bushes, on the ground, or in artificial structures (Butler 1992, Unitt 2004). This species is non-migratory in southern California but is migratory in other parts of its range (Unitt 2004). Great blue herons forage diurnally in estuaries and beaches but are also commonly seen on dry land (Unitt 2004, K. Fischer pers. obs.). The observation in 2009 was of a lone individual in March moving through the Preserve. A breeding colony does occur at the San Diego Zoo Safari Park in San Pasqual Valley, and this bird may have been using the Preserve for foraging. This species is common within the County.

Turkey Vulture (*Cathartes aura*)

San Diego County Group I

Turkey vultures are often seen foraging over woodlands and nearby open country (Unitt 2004). They prefer dry, open country and ranch lands and often occur along roadsides where carrion is common. They nest in crevices among granite boulders (Unitt 2004). The turkey vultures' range has been retracting from the coast due to human disturbance, loss of foraging habitat, and pesticide contamination (Unitt 2004). Turkey vultures were observed foraging over the Preserve. There is suitable breeding habitat for this species on the Preserve; however, no nests were observed in 2009. This species is common in the undeveloped areas of east San Diego County.

Cooper's Hawk (*Accipiter cooperii*)

San Diego County Group I, North County MSCP Covered Species

The Cooper's hawk is a resident of riparian deciduous habitats and oak woodlands but in recent times has become adapted to urban park environments (Unitt 2004). They hunt their primary source of food, passerines, in broken woodlands and forest margins, and they are also known to take fish and mammals. The Cooper's hawk population declined due to hunting and loss of habitat; however, this species is making a comeback through its adaptation to the urban environment (Unitt 2004). Cooper's hawk was detected consistently throughout the point counts at Stations 3, 7, and 10 (County 2010) and in March, April, and May. One nest was detected within the eucalyptus trees at the eastern edge of the SE portion (southernmost observation) (Figure 7). Breeding can be assumed in the oak woodlands adjacent to Stations 3 and 10 (County 2010). This species is widespread throughout the County.

Red-shouldered Hawk (*Buteo lineatus*)

San Diego County Group I

The red-shouldered hawk was once an uncommon breeder of lowland riparian woodlands but has been thriving in urban environments with large trees such as eucalyptus (Unitt 2004). On the west coast, this species is found in California and northern Baja California and is common throughout San

Diego County. Red-shouldered hawks were regularly detected at Stations 4 and 10 (County 2010) and in March, April, June, July, and August. This species is widespread throughout the County.

Ferruginous Hawk (*Buteo regalis*)

San Diego County Group I

The ferruginous hawk is an uncommon winter visitor to San Diego County that is mostly found foraging in open grasslands (Unitt 2004). Development of the grasslands they forage over caused the decline in this species (WRI 2007). The Preserve is a prime wintering location for ferruginous hawks (WRI 2007). Four were detected on February 25, 2009, on the SE portion of the Preserve, and other individuals were sporadically recorded during other surveys in February.

Golden Eagle (*Aquila chrysaetos*)

State Fully Protected Species, San Diego County Group I, North County MSCP Covered Species

Golden eagles nest on cliff ledges or trees on steep slopes and forage in grasslands, sage scrub, or broken chaparral (Unitt 2004). Development of the grasslands they forage over has taken a toll on the numbers of this species present in San Diego County. A territory averages 36 square miles so removal of foraging habitat will have significant impacts on this species (Unitt 2004). Historically, a golden eagle pair breeds and forages at the Preserve (WRI 2007). During the 2009 surveys, the pair was observed on numerous occasions throughout the season. No active nests were confirmed but there is suitable habitat for breeding in the NW portion.

Barn Owl (*Tyto alba*)

San Diego County Group II

The barn owl is the owl species that is most tolerant to urban development (Unitt 2004). It will nest in buildings, nest boxes, at the base of the leaves in palm trees, and in cavities in native trees (Unitt 2004). Even though this species is tolerant of human development, dense housing communities do not provide suitable nesting habitat, and increased traffic has had a negative effect on the species (Unitt 2004). Barn owls were detected all over the Preserve and were the most widespread owl species detected during nocturnal surveys. One family group was detected near the southwestern edge of the SE portion of the Preserve but most likely breeds throughout the Preserve. This species is widespread throughout the County.

Burrowing Owl (*Athene cunicularia*)

State Species of Special Concern, San Diego County Group I, North County MSCP Covered Species

Burrowing owls are found in prairies, grasslands, lowland scrub, agricultural lands, coastal dunes, desert floors, and some artificial open areas (Unitt 2004). This species requires large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows. The burrowing owl uses rodent or other burrows for roosting and nesting cover and also is known to use pipes, culverts, and nest boxes where burrows are scarce. As with other grassland species, the burrowing owl population in San Diego County is on the decline due to loss of habitat to development and habitat fragmentation (Unitt 2004). Burrowing owls naturally and artificially occur at the Preserve (WRI 2007). In 2005, relocated owls were introduced to enhanced habitat south of the SE portion on Wildlife Research Institute (WRI) property. These owls did

successfully breed in low numbers. In 2009, burrowing owls were detected diurnally near the southern edge of the Preserve where WRI installed artificial burrows. Breeding is likely occurring in some of these burrows. No protocol surveys were conducted for the species, but general surveys through suitable habitat did not reveal any new occupied burrows within the Preserve's boundary. During nocturnal surveys, burrowing owls were detected foraging in the SW, SE, and NE portions of the Preserve. This species is limited to three other breeding populations on the coastal side of the local mountains (Unitt 2004).

Vermillion Flycatcher (*Pyrocephalus rubinus*)

State Species of Special Concern, San Diego County Group I

The vermillion flycatcher is a rare species to San Diego County that has only been documented breeding in one location on the coastal side of the local mountains (Unitt 2004). This species is typically associated with the desert riparian plant community, and San Diego County represents the southwestern edge of its breeding range (Unitt 2004, Shuford and Gardali 2008). In February 2009, one individual was observed on a barbed-wired fence in the NE portion. This bird was transitory and was not observed again.

Loggerhead Shrike (*Lanius ludovicianus*)

State Species of Special Concern, San Diego County Group I

Loggerhead shrikes are found near grassland, open sage scrub and chaparral, and desert scrub (Unitt 2004). They nest in dense vegetation adjacent to open foraging habitats. Shrikes prefer to sit on an exposed tree limb or utility line looking for prey. They attack their prey from either a hovering flight above, or from their perch. The loggerhead shrike population in San Diego County is on the decline due to loss of habitat to development and habitat fragmentation (Unitt 2004). The species is still found throughout the County on the coastal plain and into the desert. One loggerhead shrike was observed in August at Station 5 (County 2010). The bird was foraging in the SW portion. This species is widespread throughout the County.

California Horned Lark (*Eremophila alpestris actia*)

San Diego County Group II

The California horned lark is a resident of a variety of open habitats, usually where trees and large shrubs are absent (Zeiner et al. 1990). This species primarily breeds in open fields and grasslands and is found along the coastal slope of San Diego County east to Jacumba (Unitt 2004). Continuing threats to this species include habitat destruction and fragmentation. California horned larks were observed at Stations 5 and 6 in April, May, and June (County 2010). This species is widespread throughout the County.

Western Bluebird (*Sialia mexicana*)

San Diego County Group II

The western bluebird is a stocky blue bird with a chestnut chest and is considered common in the foothills and mountains of San Diego County. This species can usually be found in montane coniferous and oak woodlands (Unitt 2004). It can also occur in areas with scattered trees, open forests, and scrubs, and during the winter it can be found in the desert. Western bluebirds breed in

western North America from southern British Columbia south to central Mexico, east to western Montana, and west to Texas, but are absent from the Great Basin (Guinan et al. 2000). They can also winter outside their breeding range in central California and along the lower Colorado River (Guinan et al. 2000). Western bluebird numbers are declining due to loss of nesting cavities to logging, fire suppression, and competition with nonnative species such as European starling and house sparrow (*Passer domesticus*) (Unitt 2004).

Western bluebirds were observed on the Preserve in February, March, April, and August. A pair was observed building a nest at Station 3. Individuals were also detected in the oak woodland within the NW portion (Figure 7). This species is still fairly common in San Diego County (Unitt 2004).

Yellow Warbler (*Dendroica petechia*)

State Species of Special Concern, San Diego County Group II

The yellow warbler is a small insectivorous migratory passerine that inhabits lowland and foothill mature riparian woodlands (Unitt 2004, Dudek 2000). Preferred plant species include cottonwoods (*Populus* spp.), willows (*Salix* spp.), and other small trees and shrubs typically found in open-canopy riparian woodlands. Yellow warblers are usually on their breeding grounds from late March to mid-October. Destruction and degradation of riparian habitat and brood parasitism by the brown-headed cowbird led to the decline of this species (Unitt 2004). Cowbird trapping has caused an increase in the San Diego County population of yellow warblers (Unitt 2004). At least one singing yellow warbler was detected in the oak woodland on the NW portion in April (Figure 7). This species is currently considered fairly common in San Diego County (Unitt 2004).

Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)

San Diego County Group I, North County MSCP Covered Species

The southern California rufous-crowned sparrow is a resident species that is closely associated with coastal sage scrub, steep rocky hillsides, burned chaparral, and openings in mature chaparral (Unitt 2004). Preferring open habitat with approximately 50% shrub cover, this species seeks cover in shrubs, rocks, grass, and forb patches (Dudek 2000, Unitt 2004). The southern California subspecies is restricted to semiarid coastal sage scrub and sparse chaparral from Santa Barbara south to the northwestern corner of Baja California (Dudek 2000). Southern California rufous-crowned sparrows are declining due to loss of appropriate habitat and their sensitivity to habitat fragmentation (Unitt 2004). Southern California rufous-crowned sparrows were incidentally detected during other surveys or while surveyors were traveling to the count point stations and were recorded at Stations 2, 9, 11, and 12 in March through August (County 2010). This species is still found throughout San Diego County in large numbers (Unitt 2004).

Grasshopper Sparrow (*Ammodramus savannarum*)

State Species of Concern, San Diego County Group I, North County MSCP Covered Species

The grasshopper sparrow is endemic to native grasslands and only the subspecies *Ammodramus savannarum perpallidus* has been collected in California (Unitt 2004). Native grasslands are a quickly diminishing resource in San Diego County and a low number of individuals will continue to persist in areas with nonnative grass species (Unitt 2004). Urban development is the leading threat to this species. Grasshopper sparrows have been documented in the vicinity prior to the Cedar Fire (Unitt

2004). Three singing grasshopper sparrows were detected in April and June 2009: one in the SW portion and two in the SE portion (Figure 7). This species is known to occur in Ramona.

Tricolored Blackbird (*Agelaius tricolor*)

State Species of Concern, San Diego County Group I, North County MSCP Covered Species

Tricolored blackbirds are the most intensively gregarious bird species in California, with males and females normally remaining in large flocks together year round (Unitt 2004). The species is nearly restricted to California, and apparently makes only relatively short-distance seasonal movements. They nest in dense colonies in marshes and occasionally in moist thickets, agricultural fields, or sewage treatment plants (Unitt 2004). They will readily use restored or created wetlands; they may use a site for many years, or just one season, with productivity of young varying greatly from year to year. They often commute in flocks for some distance between nesting areas and feeding areas, and the latter can be in varied wetlands, including sewage treatment plants, or in open areas such as agricultural fields and even stock yards or short grasslands. A nesting colony is known to occur at the Ramona Water District Ponds (Unitt 2004). In 2009, a large flock (approximately 46 birds) was observed foraging in the SE portion near Station 5. There are only 20 to 30 known breeding colonies remaining in San Diego County (Unitt 2004).

Mammals

Small-footed Myotis (*Myotis ciliolabrum*)

San Diego County Group II

The small-footed myotis is found throughout most of western North America, from southwestern Canada south into Mexico (BCI 2008). There is not much information on the habitat requirements of this species, but it has been documented under rock slabs and in crevices, mine tunnels, under loose tree bark, and in buildings (BCI 2008). This species hibernates in caves, typically in small groups. Reasons for decline are poorly understood as there has been little research conducted on this species. Both suitable roosting and foraging habitat for the small-footed myotis occur on site and the species was detected at all six sampling locations indicating widespread use of the Preserve by this species. There were 222 detections of this species during all three sampling seasons. The Preserve most likely supports a breeding population of this species.

Long-eared Myotis (*Myotis evotis*)

San Diego County Group II

Long-eared myotis is found in western North America from British Columbia south through California to Baja Mexico (BCI 2008). This species prefers coniferous forests in higher altitudes and will roost in caves, rock crevices, under tree bark, or in buildings (BCI 2008). This species' use of the Preserve was limited to near the cave (sampling location #1, Figure 7) and the upper Santa Maria Creek (sampling location #3, Figure 7), and there were only seven detections in summer and fall. The Preserve has some value to this species but does not appear to be a core use or breeding area for the species.

Yuma Myotis (*Myotis yumanensis*)

San Diego County Group II

The Yuma myotis is found throughout much of the western U.S. and into Canada (BCI 2008). The species is always found near lakes, creeks, or ponds where the species forages over the water. Typically, individuals skim low over the water and snatch up flying insects but they can forage in other mesic areas. The species roosts by day usually in buildings or bridges but have been documented using mines or caves (BCI 2008). Yuma myotis are threatened by loss of riparian habitat and the decline in permanent water sources in the southwest. Yuma myotis was detected at all six sampling locations, during all three sampling sessions and in very high number (4,346 total observations) (Figure 7). The Preserve most likely supports a breeding population of this species.

Western Red Bat (*Lasiurus blossevillei*)

State Species of Special Concern, San Diego County Group II

Western red bats are found from southern Canada, throughout the U.S., all the way down to South America (BCI 2008). Several species in the genus *Lasiurus* are commonly referred to as "tree bats" because they roost only in tree foliage. The western red bat is a typical tree bat, with a close association with cottonwoods (*Populus* spp.) and riparian areas (BCI 2008). Like all tree bats, this species is solitary, coming together only to mate and to migrate. Western red bats typically forage along forest edges, in small clearings, or around street lights where they prefer moths (BCI 2008). Although largely undocumented, this species' decline appears to be in part due to the loss of lowland riparian forests in the southwest. Both the roosting and foraging needs of the western red bat could be supported by the Preserve. The species was detected at three of the sampling locations: lower Santa Maria Creek (sampling location #2, Figure 7), oak woodland (sampling location #4, Figure 7), and the pond (sampling location #5, Figure 7). The species was detected in low numbers (22 total observations) during all three seasons.

Western Yellow Bat (*Lasiurus xanthinus*)

State Species of Special Concern

The western yellow bat is an uncommon species that in California is only known from Los Angeles and San Bernardino Counties south to the Mexican border (CDFG 2005). This species roosts in trees, especially palm trees in desert environments, and forages over water and among trees in riparian areas (CDFG 2005). Their flight pattern appears to be slow and steady but they can be fast and maneuverable if needed (CDFG 2005). One individual was detected in fall at the lower Santa Maria Creek (sampling location #2, Figure 7).

Townsend's Big-eared Bat (*Corynorhinus townsendii*)

State Species of Special Concern, San Diego County Group II, North County MSCP Covered Species

Townsend's big-eared bat occurs throughout the drier portions of California (Zeiner et al. 1990). It is non-migratory and hibernates from approximately October through April. A wide variety of natural communities are occupied but mesic sites are preferred. The bats capture a variety of prey while in flight, which is slow and maneuverable, and they are capable of hovering (Zeiner et al. 1990). The species is known to roost predominantly in caves but will use lava tubes, mines, tunnels, buildings, and other human-made structures (BCI 2008). They are extremely sensitive to disturbance at their

roosting sites and have suffered severe population declines throughout much of the U.S. (BCI 2008). Two individuals were detected in fall 2009 at the lower Santa Maria Creek (sampling location #2, Figure 7).

Pallid Bat (*Antrozous pallidus*)

State Species of Special Concern, San Diego County Group II, North County MSCP Covered Species

Pallid bats are widely distributed in the southwestern U.S. and northern Mexico (BCI 2008). They are locally common across most of California except in the far northwest and in higher portions of the Sierra Nevada. Habitats utilized include a wide variety of grasslands, shrublands, woodlands, and forests, including mixed conifer forest (Zeiner et al. 1990). They appear to be most common in open, dry, rocky lowlands, and they roost in caves, mines, crevices in rocks, buildings, and trees.

This is a colonial species that forages low over open ground, often picking up beetles and other species of prey off the ground (Zeiner et al. 1990). Flight is slow and maneuverable, and they are able to take a wide variety of prey, including large, hard-shelled insects (Zeiner et al. 1990). They have separate night and day roosts, hibernate in winter, and the sexes segregate in summer. Pallid bats were detected at three sampling locations: lower and upper Santa Maria Creek (sampling locations #2 and #3, Figure 7) and at the pond (sampling location #5, Figure 7). There were a total of six detections in spring and summer.

Pocketed Free-tailed Bat (*Nyctinomops femorosaccus*)

State Species of Special Concern, San Diego County Group II

Pocketed free-tailed bats are rarely found in southwestern California. These bats live in arid desert areas and roost in crevices high on cliff faces in rugged canyons (BCI 2008). Nursery colonies are relatively small and usually include fewer than 100 individuals. This species primarily forages on large moths, especially over water. The regional status and species trends are unclear, but it is likely vulnerable to disturbance, especially at roosts, and perhaps also to threats to food supply from human-made toxins. The data indicate widespread use of the Preserve by pocketed free-tailed bats as this species was detected at all six sampling locations during all three sampling seasons (Figure 7). A total of 334 detections were recorded.

Big Free-tailed Bat (*Nyctinomops macrotis*)

State Species of Special Concern, San Diego County Group II

Big free-tailed bats are typically found in desert and arid grasslands with rocky outcrops, canyons, or cliffs (BCI 2008). This species roosts on cliffs and occasionally in buildings. Isolated populations can be found throughout the southwestern U.S. into Mexico. The regional status and species trends are unclear, but it is likely vulnerable to disturbance, especially at roosts, and perhaps also to threats to food supply from human-made toxins. The big free-tailed bat was detected in low numbers (five total detections) at three of the sampling locations: lower and upper Santa Maria Creek (sampling locations #2 and #3, Figure 7) and at the pond (sampling location #5, Figure 7). The species was detected only in summer and fall.

Western Mastiff Bat (*Eumops perotis*)

State Species of Special Concern, San Diego County Group II

Western mastiff bats are the largest native bats in the United States. This subspecies occurs from the western foothills of the Sierra Nevada and the coastal ranges (south of San Francisco Bay) southward into Mexico (BCI 2008). In southern California, they are found throughout the coastal lowlands up to drier mid-elevation mountains, but avoid the Mohave and Colorado deserts (Zeiner et al. 1990). Habitats include dry woodlands, shrublands, grasslands, and occasionally even developed areas. This big bat forages in flight, and most prey species are relatively small, low to the ground, and weak-flying. For roosting, western mastiff bats appear to favor rocky, rugged areas in lowlands where abundant suitable crevices are available for day roosts (BCI 2008). Roost sites may be in natural rock or in tall buildings, large trees, or elsewhere. The reasons for this species' decline are poorly understood but probably are related to disturbance, habitat loss, and perhaps widespread use of pesticides. The western mastiff bat was detected at five of the six sampling locations (#1, #2, #4, #5, and #6; Figure 7) in low numbers (26 total observations) during all three sampling seasons.

Dulzura Pocket Mouse (*Chaetodipus californicus femoralis*)

State Species of Special Concern, San Diego County Group II

Dulzura pocket mouse is mainly active on the ground, but also climbs shrubs and small trees when feeding (CDFG 2005). This species can become torpid by day at any time of the year, and is inactive in cold wet weather. It breeds in spring to early summer and occurs from sea level to approximately 2,408 meters (7,900 feet) AMSL (CDFG 2005). This species prefers dense chaparral and is less common in dry grassland and desert scrub. During the 2009 trapping program on the Preserve, 9 of the 1,067 animals captured were Dulzura pocket mice. All capture locations were associated with sample area D1 (Figure 7).

Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*)

State Species of Special Concern, San Diego County Group II

The northwestern San Diego pocket mouse is typically found in coastal sage scrub, sage scrub/grassland ecotones, and chaparral (Dudek 2000). It inhabits open, sandy areas of both the Upper and Lower Sonoran areas of southwestern California and northern Baja California (Dudek 2000). This species is sensitive to habitat fragmentation and degradation, which has led to its decline. During the 2009 trapping program on the Preserve, 337 of the 1,067 animals captured were northwestern San Diego pocket mice. Northwestern San Diego pocket mice were detected at 17 separate sampling locations: A5, B1, B2, B3a, B3b, B3c, B3d, B3e, C1–C5, D1, D2b, D3a, and D4b (Figure 7).

Stephens' Kangaroo Rat (*Dipodomys stephensi*)

Federal Endangered, State Threatened, San Diego County Group I, North County MSCP Covered Species

The Stephens' kangaroo rat is found almost exclusively in open grasslands or sparse shrublands with cover of less than 50% during the summer. The species typically avoids dense grasses (for example, nonnative bromes [*Bromus* spp.]) and is more likely to inhabit areas where the annual forbs disarticulate in the summer and leave more open areas. Soil type also is an important habitat

factor. As a fossorial (burrowing) animal, the species typically is found in sandy and sandy loam soils with a low clay to gravel content, although there are exceptions where they can utilize the burrows of Botta's pocket gopher (*Thomomys bottae*) and California ground squirrel (*Spermophilus beecheyi*). This species tends to avoid rocky soils. Slope is a factor in occupation; the species tends to use flatter slopes (i.e., < 30%), but may be found on steeper slopes in trace densities (i.e., < one individual per hectare). Furthermore, the species may use steeper slopes for foraging, but not for burrows. In general, the highest abundances of species occur on gentle slopes less than 15%. During the 2009 trapping program on the Preserve, only 3 of the 1,067 animals captured were Stephens' kangaroo rats. Positive sample locations included A2 and D-misc (Figure 7). These animals were processed by a biologist permitted to handle Stephens' kangaroo rat.

San Diego Desert Woodrat (*Neotoma lepida intermedia*)

State Species of Special Concern, San Diego County Group II

San Diego desert woodrat requires large amounts of water, which it obtains from fleshy plants such as yucca species and prickly pear cactus (*Opuntia* sp.). It usually makes a stick house under one of these food plants, or may den among rocks (CDFG 2005). House materials include cacti, sticks, bones, and a variety of debris. Houses provide insulation against excessive heat as well as protection from predators. This species breeds in late winter or spring, occurs from sea level to approximately 2,591 meters (8,500 feet) AMSL in deserts and coastal sage scrub, and prefers areas with rocky outcrops and plentiful succulents (CDFG 2005). During the 2009 trapping program on the Preserve, 32 of the 1,067 animals captured were San Diego desert woodrats. Positive sample locations included B2, C3, C5, and D2b (Figure 7).

Southern Mule Deer (*Odocoileus hemionus fuliginata*)

San Diego County Group II, MSCP Covered Species (South County)

Southern mule deer are common across the western U.S. in a variety of habitats from forest edges to mountains and foothills (Whitaker 1996). Southern mule deer prefer edge habitats, rarely travel or forage far from water, and are most active around dawn and dusk. Some sign of southern mule deer was seen at the Preserve, and a few deer were photographed during camera sampling. Southern mule deer was visually observed in the NW portion of the Preserve at camera stations 1 and 2 (Figure 7). There was not as much deer activity as would be expected in a Preserve this size.

1.4.7.2 Special-Status Wildlife Species with High Potential to Occur

Herpetofauna

California Legless Lizard (*Anniella pulchra pulchra*)

State Species of Special Concern, San Diego County Group II

The California (or silvery) legless lizard is a small slender lizard that ranges from the southern edge of the San Joaquin River southward to the Mexican border (CDFG 2005). This species is sometimes confused for a snake but upon close observation, the presence of eyelids identifies the animal as a lizard. Legless lizards are common in a variety of vegetation communities including coastal dune, valley-foothill, chaparral, and coastal scrub (CDFG 2005). This lizard lives mostly underground, burrowing in loose sandy soil, and is tolerant of low temperatures, so it can be found foraging in

loose soil, sand, and leaf litter on cool days and during the cooler times of day (morning and evening). The decline of this species is due to loss of habitat from agriculture and development and the introduction of nonnative plant species such as ice plant (California Herps 2008). Although this species was not observed during the 2009 surveys, it has high potential to occur in the oak, scrub, and chaparral habitats occurring on the Preserve.

San Diego Ringneck Snake (*Diadophis punctatus similis*)

San Diego County Group II

The San Diego ringneck snake is a small, thin snake that prefers moist habitats, including wet meadows, rocky hillsides, gardens, farmland, grassland, chaparral, mixed coniferous forests, and woodlands (Stebbins 2003). It is secretive in its behavior, usually found under the cover of rocks, wood, bark, boards, and other surface debris. Ringneck snakes eat small salamanders, tadpoles, small frogs, small snakes, lizards, worms, slugs, and insects. This species' range includes San Diego County along the coast and into the Peninsular Range, southwestern San Bernardino County, and barely south into northern Baja California (Stebbins 2003). Threats to this species include habitat degradation and fragmentation from urban development. Although this species was not observed during the 2009 surveys, it has high potential to occur in all the natural habitats occurring on the Preserve.

Coast Patch-Nosed Snake (*Salvadora hexalepis virgutea*)

State Species of Special Concern, San Diego County Group II

The coast patch-nosed snake is a medium-sized, slender snake that is a habitat generalist that makes use of whatever vegetative cover is available and thrives in most environments. It is also a generalist in its diet, opportunistically feeding on anything it can overpower including small mammals, lizards, and the eggs of lizards and snakes. The species ranges from Creston in San Luis Obispo County southward into Baja California (Stebbins 2003). This species' decline is likely due to conversion of habitat to development, agriculture, or nonnative plant species. Although this species was not observed during the 2009 surveys, it has high potential to occur in all the natural habitats occurring on the Preserve.

Birds

White-Tailed Kite (*Elanus caeruleus*)

State Fully Protected Species (nesting), San Diego County Group I

The white-tailed kite is found in lower elevations in open grasslands, agricultural areas, wetlands, and oak woodlands. Their primary source of food is the California vole (*Microtus californicus sanctidiegi*) (Unitt 2004). It typically forages in open, undisturbed habitats and nests in the top of a dense oak, willow, or other large tree (Unitt 2004). The white-tailed kite population is on the decline mostly due to urban sprawl; however, this species is still considered fairly widespread throughout the foothills of San Diego County (Unitt 2004). White-tailed kites have historically nested on the Preserve (WRI 2007); however, no individuals or nests were observed during the 2009 surveys. The most recent documented observation was in 2006 (WRI 2007).

Bald Eagle (*Haliaeetus leucocephalus*)

State Endangered, State Fully Protected Species, San Diego County Group I

The bald eagle is a rare annual winter visitor to San Diego County (Unitt 2004). Populations crashed due to widespread pesticide use, especially DDT, and shooting (Unitt 2004). It eats mainly fish and carrion, and observations are typically tied to water bodies (i.e., Lake Henshaw) (Unitt 2004). The bald eagle has occasionally been seen wintering at the Preserve (2004, 2005 and 2006) (WRI 2007).

Northern Harrier (*Circus cyaneus*)

State Species of Special Concern, San Diego County Group I, North County MSCP Covered Species

The northern harrier is associated with open grassland and marshes. This species typically forages in open, undisturbed habitat and nests on the ground in areas of dense low-growing vegetation to help conceal the nest. Nesting harriers are now considered rare and the known breeding population in San Diego County is estimated at 25 to 75 pairs (Unitt 2004). As with other ground nesting grassland birds, the northern harrier population is on the decline due to urban sprawl (Unitt 2004). Northern harriers are not known to breed at the Preserve; however, they are known to occasionally forage and winter there (2004, 2005, and 2006) (WRI 2007).

Sharp-shinned Hawk (*Accipiter striatus*)

San Diego County Group II

Sharp-shinned hawks breed in young coniferous forests with high canopies. This species has not been documented breeding in San Diego; however, some summer sightings have been recorded (Unitt 2004). It is considered a fairly common migrant and winter resident, except in areas with deep snow (Dudek 2000). The known population breeding within California is very small and is vulnerable to impacts from falconry and logging. This species has high potential to occur as a migrant within the Preserve as it has been documented during surveys in 2004 moving through the Preserve (WRI 2007).

Northern Goshawk (*Accipiter gentilis*)

State Species of Special Concern

The northern goshawk is an extremely rare visitor to southern California with one of three breeding records in the region observed in San Diego County (Unitt 2004). This species nests in old growth forests and foraging habitat varies with abundance of prey (Shuford and Gardali 2008). This species is a rare winter vagrant and a very rare visitor to the grasslands found on the Preserve (WRI 2007).

Peregrine Falcon (*Falco peregrinus*)

State Endangered, State Fully Protected Species, San Diego County Group I

The peregrine falcon formerly bred over most of North America, but in San Diego County there are only five nesting locations that have been documented and all of these are along the coast (Unitt 2004). Already declining populations crashed in the 1950s and 1960s due to extensive use of pesticides, which polluted food chains and concentrated to toxic levels in many top predators including this species (USFWS 1999). Nesting was historically limited to tall cliffs and similar

inaccessible situations with very limited human disturbance, but some individuals have adapted to artificial situations such as towers, high bridges, and tall buildings in urban areas (Unitt 2004, USFWS 1999). Peregrine falcons mostly forage along shorelines and open water with high densities of prey species such as ducks and shorebirds (White et al. 2002). Secondly, the species will utilize areas with high numbers of pigeons and game birds, such as in urban and some agricultural areas (White et al. 2002, USFWS 1999). During migration, individuals will pass through almost all habitats. The peregrine falcon has been recorded at the Preserve during migration in 2004 and 2006 (WRI 2007). As the Preserve does not provide suitable nesting habitat, observations would be transitory in nature.

Prairie Falcon (*Falco mexicanus*)

State Species of Special Concern, San Diego County Group I

Prairie falcons forage over open terrain and nest in canyons, cliffs, escarpments, and rock outcrops (Dudek 2000). They prefer annual grasslands, alpine meadows, perennial grasslands, savannahs, rangeland, some agricultural fields, and desert scrub areas. The species requires sheltered cliff ledges for cover and nesting. In California, the prairie falcon is an uncommon permanent resident and migrant that ranges from southeastern deserts northwest along the inner Coast Ranges and Sierra Nevada. The largest threat to prairie falcons is disturbance at the nest site. This species is a rare breeder in San Diego County but the numbers have remained relatively stable (Unitt 2004). This species has high potential to occur within the Preserve during migration and has been documented during historical surveys in 2003 through 2006 (WRI 2007).

Merlin (*Falco columbarius*)

San Diego County Group II

The merlin is most often seen in grasslands but has the potential to occur in any vegetation community except dense woodland (Unitt 2004). This species is a rare winter visitor to San Diego County that feeds mostly on small birds and can be found where small birds flock (Unitt 2004). This species has high potential to occur as a migrant within the Preserve as it has been detected at the Preserve in previous winters (2004 and 2006) (WRI 2007).

Southwestern Willow Flycatcher (*Empidonax traillii extimus*)

Federally Endangered, State Endangered, San Diego County Group I, North County MSCP Covered Species

The southwestern willow flycatcher is a small, insectivorous, migratory bird that is usually found foraging in dense riparian vegetation. This species is known to breed in southern California, Arizona, New Mexico, extreme southern portions of Nevada and Utah, far western Texas, perhaps southwestern Colorado, and extreme northwestern Mexico (USFWS 1995). When listed by the USFWS in 1995, there were only 577 individuals known throughout its entire range. Fewer than 90 pairs have been documented in San Diego County (Unitt 2004). The decline of this species was mostly due to disturbance and removal of riparian vegetation, water diversions and groundwater pumping, food availability and nesting, mismanagement of livestock, and recreational development.

Southwestern willow flycatchers are also considered semicolonial in that breeding territories are clumped close together. A metapopulation can use up to 15 kilometers (9 miles) for immigration and emigration to maintain population stability (Unitt 2004, USFWS 2004). Southwestern willow

flycatchers usually arrive on their breeding grounds in southern California beginning in early May and remain through at least late July. Timing of departure of locally breeding birds is difficult to determine due to extremely secretive behavior at that time along with more abundant migrants of other subspecies passing through the area. Migrants of subspecies other than *E.t. extimus* are very widespread, and uncommon to fairly common as they pass through southern California. Their occurrence is mainly from late May through mid-June, and again from late July through September. Definitive identification of a willow flycatcher as the southwestern subspecies usually occurs between June 14 and July 17 (Unitt 1987). A migrant willow flycatcher was detected moving through the Preserve in June 2005 (Lovio 2007).

Least Bell's Vireo (*Vireo belli pusillus*)

Federally Endangered, State Endangered, San Diego County Group I, North County MSCP Covered Species

Historically, the least Bell's vireo was a common to locally abundant species found in lowland riparian habitats from northern California to coastal southern California. Loss of riparian habitats and the effects of brown-headed cowbird parasitism have resulted in a large decline in the population. The population was estimated at 300 pairs in 1986 when listed by the USFWS. Currently, the population is limited to mid- to southern California. The majority of the population is found in San Diego County. Since listing, least Bell's vireo numbers have increased six-fold. In 1998, the population was estimated at 2,000 pairs (Kus 2002). Nests are typically placed within 1 meter (3 feet) of the ground in dense shrubby riparian habitat.

Least Bell's vireo has moderate to low potential to occur on the Preserve in its current state. There is not much suitable breeding habitat on the Preserve to support the species. If the riparian scrubs within Santa Maria Creek develop a dense understory and a more developed overstory, this species may one day inhabit the Preserve. A historically large population persisted in San Pasqual Valley, northeast of the Preserve (K. Fischer pers. obs.); however, the Witch Fire of 2007 destroyed many acres of this species' preferred habitat.

Coastal California Gnatcatcher (*Poliophtila californica californica*)

Federally Threatened, State Species of Special Concern, San Diego County Group I, North County MSCP Covered Species

The coastal California gnatcatcher is a small resident insectivorous species whose occurrence is strongly associated with sage scrub habitats found throughout southern California into northern Baja California, Mexico. Although California gnatcatchers have a close association with sage scrub, this species has also been documented using coastal sage-chaparral scrub, chamise chaparral, and other habitat types such as the ecotone between coastal sage scrub and grasslands (Campbell et al. 1998, Bontrager 1991, K. Fischer pers. obs.). Habitat destruction, fragmentation, and modification have led to this species' decline (USFWS 1993). Loss resulting from agriculture and urban development were leading causes until 2003 when the Cedar Fire destroyed almost 28% of the remaining habitat that the USFWS believed to be suitable for the coastal California gnatcatcher (Bond and Bradley 2003). The fires throughout the County in October 2007 also decimated many acres of coastal sage scrub occupied by California gnatcatchers. The extent of damage to the California gnatcatcher population is unknown at this time.

Coastal California gnatcatchers have historically been detected at the Preserve (1999) and adjacent to the Preserve (1998, 2001, 2002) (BIOS 2009). The northern area of the NE portion and southeastern area of the NW portion include designated critical habitat for coastal California gnatcatcher (Figure 4). Currently, most of the coastal sage scrub on site is not appropriate for this species and if it is appropriate, it is isolated from other patches. This species has potential to occur in the future as it previously inhabited the area, but current conditions do not support suitable habitat for the species. As the coastal sage scrub recovers and California gnatcatchers inhabit the nearby coastal sage scrub, this species will have high potential to occur at the Preserve.

Bell's Sage Sparrow (*Amphispiza belli belli*)

San Diego County Group I, North County MSCP Covered Species

The Bell's sage sparrow is a resident species that is usually found in chaparral and coastal sage scrub in southern California and Baja California. This mostly ground-dwelling species prefers open chaparral and sage scrub and is one of the first species to inhabit recently burned habitat (Unitt 2004). The subspecies Bell's sage sparrow, *A. b. belli*, occurs along the coastal lowlands, inland valleys, and in the lower foothills of the local mountains in southern California and south into Baja California (Dudek 2000). The decline of this species can be attributed to fire suppression, invasion by exotic plant species, loss of habitat to agriculture and urban development, and population isolation due to habitat fragmentation (Unitt 2004, Dudek 2000). Bell's sage sparrows were not observed during the 2009 surveys, but there is high potential for the species to occur as it has been recorded in the immediate vicinity (Unitt 2004).

Mammals

Mountain Lion (*Puma concolor*)

San Diego County Group II, North County MSCP Covered Species

Mountain lions prefer rocky areas, cliffs, and ledges that provide cover within open woodlands and chaparral (Dudek 2000). Riparian areas also provide protective habitat connections for movement between fragmented habitats. This species is widespread in North and South America and occupies a broad variety of habitats from the northern limit of the Canadian forests to Patagonia in South America. Populations of this species require large areas to sustain themselves, requiring at least 850 square miles to remain stable (Dudek 2000). Habitat fragmentation, loss of large areas of undeveloped land, road kills, indiscriminate shootings, animal control measures, and loss of natural prey base have led to the decline of this species. The Preserve and the surrounding open space provide habitat for mountain lion to use for foraging and cover, and the species has been documented on the Preserve during previous surveys (CBI 2007).

1.4.8 Wetlands/Jurisdictional Waters

Wetlands and other waters are considered to be sensitive biological resources and are protected by various federal, state, and local regulations. The U.S. Army Corps of Engineers (USACE) and the Regional Water Quality Control Board (RWQCB) regulate waters of the U.S. (WoUS), including wetlands, under the authority of Sections 404 and 401 respectively, of the federal Clean Water Act (CWA). The term "waters of the U.S." encompasses many types of waters, including waters currently or historically used in interstate commerce; all waters subject to the ebb and flow of tides; all

interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including ephemeral and intermittent streams), mudflats, sandflats, wetlands, sloughs, etc., the use, degradation or destruction of which could affect interstate or foreign commerce; all impoundments of waters otherwise defined as waters of the U.S.; tributaries of waters of the U.S.; territorial seas; and wetlands adjacent to waters of the U.S. (USACE 1987). Under California's Porter-Cologne Act, the RWQCB's jurisdiction also includes isolated wetlands and other waters that are not jurisdictional under the CWA. The CDFG takes jurisdiction over lakes, rivers, and streams under Section 1600 et seq. of the Fish and Game Code.

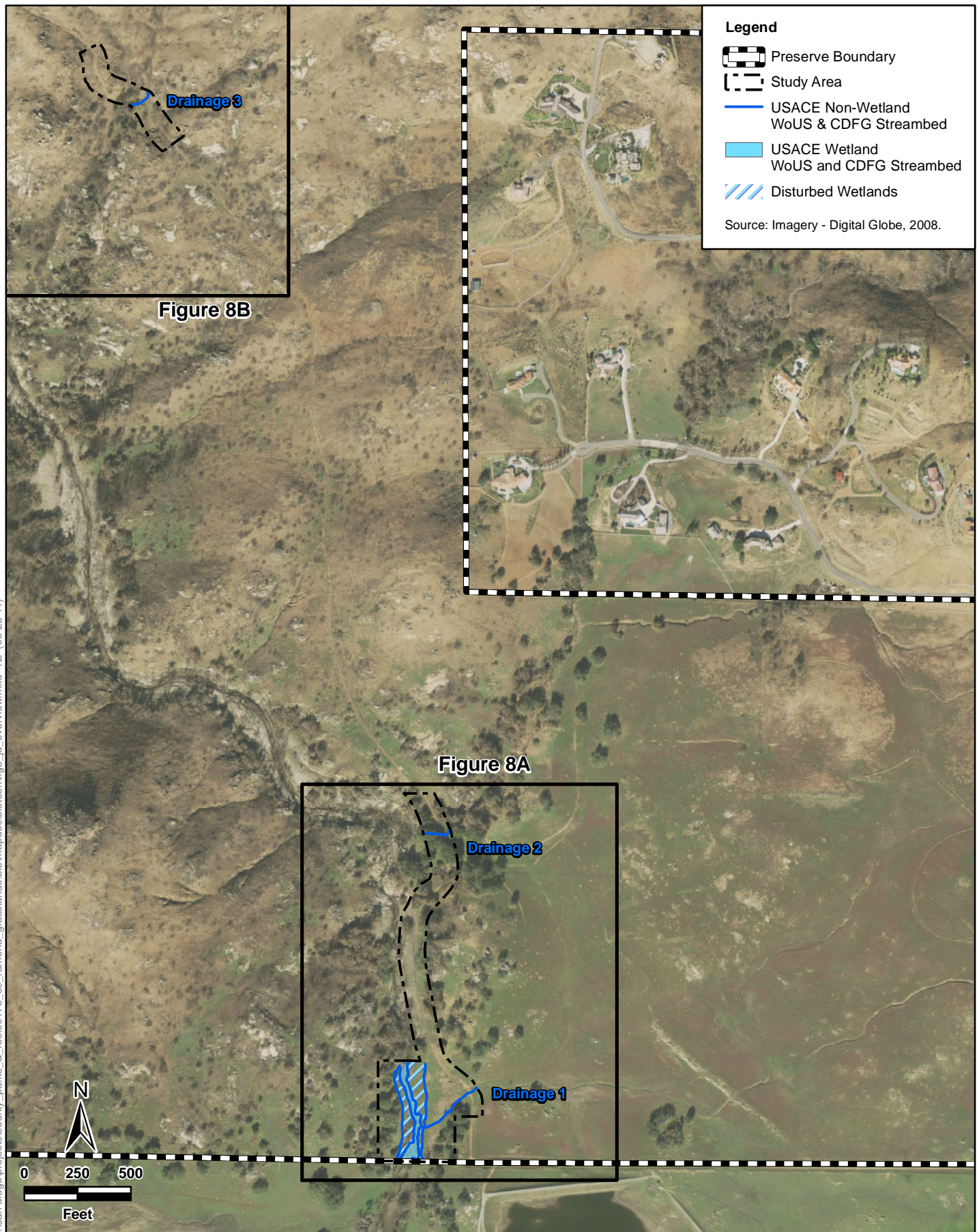
The USACE defines wetlands as areas that are dominated by hydrophytic plant species, exhibit wetland hydrology, and have hydric soils. Areas that do not meet these criteria but exhibit a defined channel are considered non-wetland waters of the U.S. CDFG jurisdiction extends across the bed, banks, and channel of these features and includes areas beneath a riparian canopy, even if the canopy areas are well away from the stream channel (such as in riparian areas). The RWQCB takes jurisdiction of WoUS as defined by the USACE as well as other surface waters, which include isolated wetlands (e.g., vernal pools) and stream channels.

The Preserve occupies a significant portion of the Santa Maria Creek subbasin of the San Dieguito River watershed (County 2010). The Santa Maria Creek and its tributaries drain from the mountains east of Ramona, across the Preserve, and through Bandy Canyon to its confluence with Santa Ysabel Creek. Below this confluence, the San Dieguito River flows into Lake Hodges. Santa Maria Creek exhibits intermittent flow in response to winter rainfall, although surface flow in the creek may persist late in the summer during heavy rainfall years. Water is also perennial at the far western end of the valley. The majority of the other drainages shown in Figure 5 of the Baseline Biodiversity Report (County 2010) have been previously identified as potential stream courses (blue line) by USGS on the San Pasqual quadrangle (USGS 1983). All of the drainages mapped, with the exception of Santa Maria Creek are ephemeral, have a defined bed and bank, and would likely be considered jurisdictional by federal and state agencies.

A formal wetland delineation was conducted within and adjacent to the proposed location of the crossing of Santa Maria Creek and along Old Survey Road located in the NW portion of the Preserve. The section of Santa Maria Creek evaluated during the delineation was determined to be a perennial wetland waters of the U.S., and the adjacent floodplain was determined to be disturbed wetlands, all under the joint jurisdiction of USACE, CDFG, and RWQCB. The width of the delineated jurisdictional habitat at the location of the proposed crossing is approximately 90 feet, consisting of a 20-foot-wide incised channel and a vegetated active floodplain extending approximately 20 feet to the west and 50 feet to the east of the channel, respectively (Figures 8 and 8a).

Three drainage features were identified along Old Survey Road that were determined to be non-wetland waters under the joint jurisdiction of USACE, CDFG, and RWQCB (Figures 8, 8a, and 8b). The first (Drainage 1) is located just northeast of the proposed crossing of Santa Maria Creek, the second (Drainage 2) is approximately 1,000 feet north of the proposed crossing, and the third (Drainage 3) is approximately 4,000 feet north of the proposed crossing. Drainages 1 and 2 cross under Old Survey Road via existing culverts, and the actual roadbed would, therefore, not fall under the jurisdiction of the USACE, CDFG, or RWQCB.

Erosion features were observed along portions of Old Survey Road north of Drainage 3; however, these areas are not proximal and do not share a surface connection to WoUS. Therefore, these areas would not fall under the jurisdiction of the USACE, CDFG, or RWQCB.



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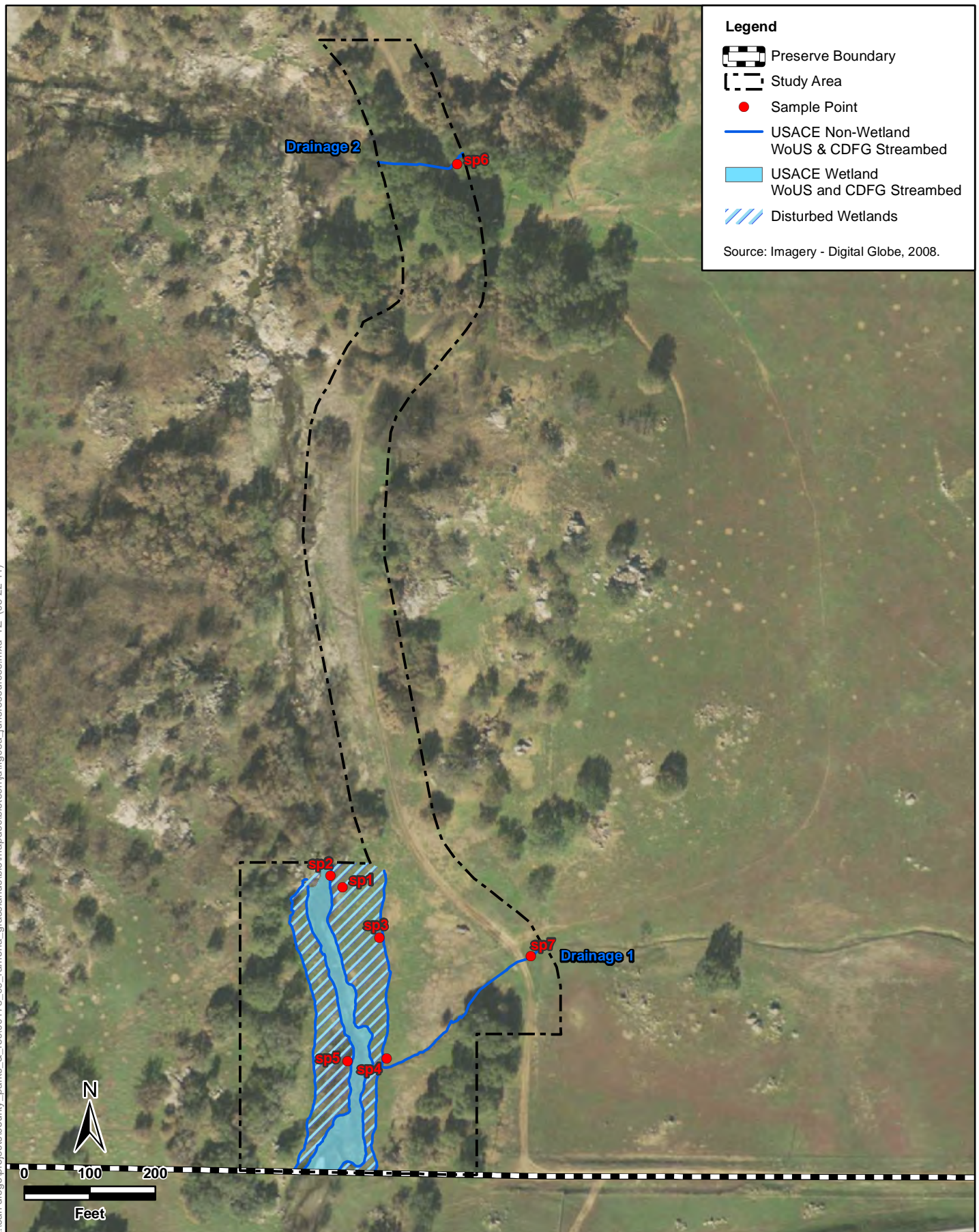
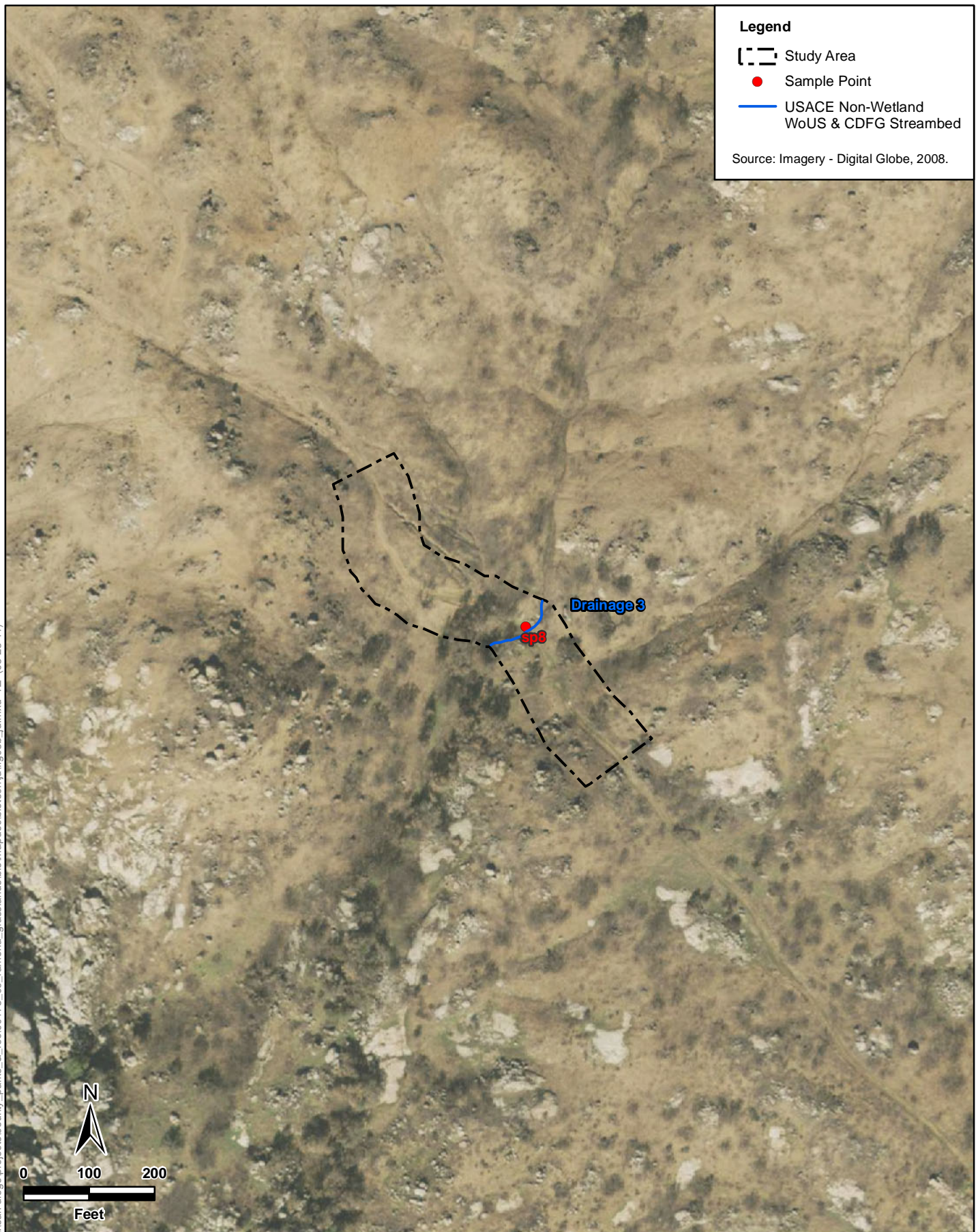


Figure 8A
Potential Jurisdictional Resources within the Preserve
Biological Resources Report for Ramona Grasslands Preserve Project

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1.4.9 Habitat Connectivity and Wildlife Corridors

Wildlife movement corridors are areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features such as canyon drainages, ridgelines, or areas with vegetative cover provide corridors for wildlife movement. Wildlife movement corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high population density areas; and facilitate the exchange of genetic traits between populations.

The Preserve is identified within the North County MSCP as a core habitat area (Ramona Grasslands Core – Area 13) and a linkage that connects San Pasqual Valley to the north with Barnett Ranch and Iron Mountain preserve areas to the south. The Preserve serves as an important corridor for wildlife movement between these areas. The major wildlife movement feature located within the Preserve is Santa Maria Creek, which provides access and concealment to wildlife species of all sizes. Larger mammals such as coyotes regularly move on, off of, and across the Preserve, to and from adjacent open space. There is a crossing under Rangeland Road that connects the SE and SW portions. In 2009, numerous mammal species were documented utilizing this crossing including striped skunk (*Mephitis mephitis holzneri*), coyote (*Canis latrans*), long-tailed weasel (*Mustela frenata latirostra*), and Virginia opossum (*Didelphis virginiana*).

1.5 Applicable Regulations

Several Federal, State, and local regulations have been established to protect and conserve biological resources. The descriptions below provide a brief overview of the most appropriate regulations and their respective requirements.

1.5.1 Federal Regulations and Standards

1.5.1.1 Federal Endangered Species Act

Enacted in 1973, the Federal Endangered Species Act (ESA) provides for the conservation of threatened and endangered species and their ecosystems. The act prohibits the “take” of threatened and endangered species except under certain circumstances and only with authorization from the USFWS through a permit under Section 4(d), 7 or 10(a) of the act. Under the ESA, “take” is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

1.5.1.2 Migratory Bird Treaty Act

Congress passed the Migratory Bird Treaty Act (MBTA) in 1918 to prohibit the kill or transport of native migratory birds, or any part, nest, or egg of any such bird unless allowed by another regulation adopted in accordance with the MBTA. The prohibition applies to birds included in the respective international conventions between the U.S. and Great Britain, the U.S. and Mexico, the U.S. and Japan, and the U.S. and Russia.

1.5.1.3 Bald and Golden Eagle Protection Act

When first enacted in 1940, this act prohibited the take, transport, or sale of bald eagles, their eggs, or any part of an eagle except where expressly allowed by the Secretary of Interior. The act was amended in 1962 to extend the prohibitions to the golden eagle.

1.5.1.4 Federal Water Pollution Control Act (Clean Water Act), 1972

The Federal Water Pollution Control Act was first passed by Congress in 1948. The act was later amended and became known as the Clean Water Act (CWA). The CWA establishes the basic structure for regulating discharges of pollutants into WoUS. It gives the U.S. Environmental Protection Agency (EPA) the authority to implement pollution control programs, including setting wastewater standards for industry and water quality standards for contaminants in surface waters. The CWA makes it unlawful for any person to discharge any pollutant from a point source into navigable waters without a permit under its provisions. CWA 404 permits are issued by the USACE for dredge/fill activities within wetlands or nonwetland WoUS. CWA 401 certifications are issued by the RWQCB for activities requiring a federal permit or license which may result in discharge of pollutants into WoUS.

1.5.2 State Regulations and Standards

1.5.2.1 California Environmental Quality Act

CEQA requires that biological resources be considered when assessing the environmental impacts resulting from proposed actions. CEQA does not specifically define what constitutes an “adverse effect” on a biological resource. Instead, lead agencies are charged with determining what specifically should be considered an impact.

1.5.2.2 California Fish and Game Code

The California Fish and Game Code regulates the taking or possession of birds, mammals, fish, amphibians, and reptiles, as well as natural resources such as wetlands and waters of the state. It includes the California Endangered Species Act (CESA; Sections 2050–2115) and Streambed Alteration Agreement regulations (Sections 1600–1616), as well as provisions for legal hunting and fishing, and tribal agreements for activities involving take of native wildlife.

1.5.2.3 California Endangered Species Act

The CESA generally parallels the main provisions of the ESA and is administered by CDFG. The CESA prohibits take of any species that the California Fish and Game Commission determines to be threatened or endangered. CESA allows for take incidental to otherwise lawful development projects upon approval from CDFG. Under the California Fish and Game Code, “take” is defined as to “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.”

1.5.2.4 California Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (Fish and Game Code Section 1900-1913) directed the CDFG to carry out the Legislature’s intent to “preserve, protect and enhance rare and endangered plants in this State.” The NPPA gave the California Fish and Game Commission the

power to designate native plants as “endangered” or “rare” and to protect endangered and rare plants from take.

1.5.2.5 Porter-Cologne Water Quality Control Act

Porter-Cologne provides for statewide coordination of water quality regulations. The act established the California State Water Resources Control Board as the statewide authority and nine separate RWQCBs to oversee water quality on a day-to-day basis at the regional/local level.

1.5.2.6 Natural Community Conservation Planning Act of 1991

The Natural Community Conservation Planning (NCCP) Act is designed to conserve natural communities at the ecosystem scale while accommodating compatible land use. The CDFG is the principal state agency implementing the NCCP Program. NCCP Plans developed in accordance with the act provide for comprehensive management and conservation of multiple wildlife species, and identify and provide for the regional or area-wide protection and perpetuation of natural wildlife diversity while allowing compatible and appropriate development and growth.

1.5.2.7 California Oak Woodland Conservation Act

In 2001, the California Legislature passed the California Oak Woodland Conservation Act. This act established the Oak Woodland Conservation Program, administered by the Wildlife Conservation Board (WCB), which was designed to provide \$10 million to help local jurisdictions protect and enhance their oak woodland resources. It offers landowners, conservation organizations, and cities and counties an opportunity to obtain funding for projects designed to conserve and restore California’s oak woodlands. It authorizes the WCB to purchase oak woodland conservation easements and provide grants for land improvements and oak restoration efforts. While the Program is statewide in nature, it is designed to address oak woodland issues on a regional priority basis. The Program provides a mechanism to achieve sustainable ranching and farming operations, along with healthy oak woodlands.

1.5.3 Local Regulations and Standards

1.5.3.1 San Diego County General Plan – Open Space Element (Part I), Conservation Element (Part X), and Community and Subregional Plans

The Open Space Element and the Conservation Element of the County’s General Plan provide guiding principles for the conservation of biological resources. The Open Space Element outlines the goals and policies pertaining to each type of open space, not all of which are for the preservation of biological resources. The Conservation Element, specifically Chapters 3 and 4, address County policies relating to water, vegetation, and wildlife habitat. Appendix K of the Conservation Element outlines the County’s Resource Conservation Areas (RCA), which are further described and delineated in each of the Community and Subregional Plans. Each RCA has been designated as such for a purpose specific to that area. When a site is located within a mapped RCA, the project must comply with the relevant policies for that RCA (i.e., avoidance of oaks, etc.).

1.5.3.2 Multiple Species Conservation Program and Biological Mitigation Ordinance

The MSCP is a long-term regional conservation plan designed to establish a connected preserve system that protects the County's sensitive species and habitats. The MSCP covers 582,243 acres over 12 jurisdictions. Each jurisdiction will have their own subarea plan to be implemented separately from one another. The adopted subarea plan for the County's jurisdiction covers 252,132 acres in the southwestern portion of the unincorporated lands. The County Subarea Plan is regulated by the Biological Mitigation Ordinance (BMO), which outlines the specific criteria and requirements for projects within the MSCP boundaries. The County Subarea Plan (adopted October 1997), the BMO (adopted March 1998), the Final MSCP Plan (dated August 1998), and the Implementing Agreement (signed March 1998) between the County and Wildlife Agencies are the documents used to implement the MSCP.

The MSCP and BMO provide specific criteria for project design, impact allowances, and mitigation requirements. The criteria in this document, Guidelines for Determining Significance for Biological Resources, do not replace those required by the MSCP. All projects within the MSCP boundaries must conform to both the MSCP requirements and the County's policies under CEQA.

The North County MSCP is currently in preparation and would extend the County's MSCP into the northwestern areas of the County, including the majority of the Preserve. In addition, associated documents including a BMO and Implementing Agreement, which would be used to implement the North County MSCP once it is adopted, have also been drafted.

1.5.3.3 Habitat Loss Permit Ordinance

The Habitat Loss Permit (HLP) Ordinance was adopted in March of 1994 in response to both the listing of the California gnatcatcher as a federally threatened species, and the adoption of the NCCP Act by the State of California. Pursuant to the Special 4(d) Rule under the ESA, the County is authorized to issue "take permits" for the California gnatcatcher (in the form of HLPs) in lieu of Section 7 or 10(a) Permits typically required from the USFWS. Although issued by the County, the Wildlife Agencies must concur with the issuance of an HLP for it to become valid as take authorization under the ESA.

The HLP Ordinance states that projects must obtain an HLP prior to the issuance of a grading permit, clearing permit, or improvement plan if the project will directly or indirectly impact any of several coastal sage scrub (CSS) habitat types. The Ordinance requires an HLP if CSS or related habitat will be impacted, regardless of whether the site is currently occupied by gnatcatchers. HLPs are not required for projects within the boundaries of the MSCP since take authorization is conveyed to those projects through compliance with the MSCP. HLPs are also not required for projects that have separately obtained Section 7 or 10(a) permits for take of the gnatcatcher. For more explicit information on these requirements refer to the HLP Ordinance.

This chapter summarizes the biological effects anticipated as a result of the proposed project, including physical impacts on the environment resulting from implementation of the management directives identified in the Preserve RMP and Preserve VMP; establishment and maintenance of a multi-use trail system within the Preserve; and construction of supporting infrastructure improvements. More detailed analyses of potential impacts on specific resources are presented in Chapters 3–7.

2.1 Impact Definitions

Biological resource impacts can be considered direct, indirect, or cumulative. They will also be either permanent or temporary in nature.

- **Direct:** Occur when biological resources are altered, disturbed, or destroyed during project implementation. Examples include clearing vegetation, encroaching into wetland buffers, diverting surface water flows, and the loss of individual species and/or their habitats.
- **Indirect:** Occur when project-related activities affect biological resources in a manner that is not direct. Examples include elevated noise and dust levels, increased human activity, decreased water quality, and the introduction of invasive wildlife (domestic cats and dogs) and plants.
- **Cumulative:** Occur when biological resources are either directly or indirectly impacted to a minor extent as a result of a specific project, but the project-related impacts are part of a larger pattern of similar minor impacts. The overall result of these multiple minor impacts from separate projects is considered a cumulative impact on biological resources.
- **Temporary:** Temporary impacts can be direct or indirect and are considered reversible. Examples include the removal of vegetation from areas that will be revegetated, elevated noise levels, and increased levels of dust.
- **Permanent:** Permanent impacts can be direct or indirect and are not considered reversible. Examples include the removal of vegetation from areas that will have permanent structures placed on them or landscaping an area with nonnative plant species.

2.2 Project Impacts

An overview of the project's significant impacts on biological resources is presented below.

2.2.1 Vegetation Communities

The proposed project would directly impact a total of 6.628 acres of native or naturalized vegetation communities through construction of new trail segments, the crossing of Santa Maria Creek (and associated temporary staging area), the staging area in the NE portion, and associated facilities/improvements (picnic areas, interpretive center/ranger station, etc.; Figures 9a–9e and

Table 2-1). If the alternative crossing of Santa Maria Creek on RMWD property is utilized, impacts on native or naturalized vegetation communities would be reduced to a total of 5.76 acres (Table 2-2, Figure 10).

Specific management directives associated with implementation of the Preserve RMP and Preserve VMP, such as nonnative plant removal, habitat restoration, continued grazing, and fire management, could result in impacts on sensitive vegetation communities. However, such impacts would not be considered significant and, as part of the long-term maintenance and adaptive management of the Preserve, would serve to protect and enhance the sensitive vegetation communities within the Preserve.

2.2.2 Sensitive Plants

Focused surveys for special-status plant species were conducted in 2009 and spring 2010 within the Preserve boundaries. Focused surveys for special-status plant species were not conducted outside of the identified Preserve boundaries, including within the impact area of the proposed new trail section to be constructed east of Rangeland Road and west of the Ramona Airport (Figure 11a) and within the impact area of the proposed new trail section that would be required if the alternative crossing of Santa Maria Creek on the RMWD property is utilized (Figure 3). Because potentially suitable habitat for special-status plant species occurs along the proposed new offsite trail segment (4 feet wide by approximately 2,300 feet long) near the Ramona Airport and the potential new offsite trail segment on the RMWD property, the construction of these segments has the potential to result in impacts on special-status species, if found to occur within the proposed footprint.

Construction of the staging area within the NE portion of the Preserve would result in impacts on five individuals of southern tarplant, a County List A species (Figures 11a–11b).

Nonnative plant removal, habitat restoration, continued grazing, and fire management activities conducted per the Preserve RMP and/or Preserve VMP could result in impacts on sensitive plant species. However, such impacts would not be significant based on the overall benefit that implementation of the Preserve RMP and Preserve VMP would have on the sensitive plant species found within the Preserve.

2.2.3 Sensitive Wildlife

Focus surveys were conducted in 2009 for special-status wildlife species within the Preserve boundaries. Focused surveys for special-status wildlife species were not conducted outside of the identified Preserve boundaries, including within the impact area of the proposed new trail section to be constructed east of Rangeland Road and west of the Ramona Airport (Figures 12a and 12e) and within the impact area of the proposed new trail section that would be required if the alternative crossing of Santa Maria Creek on the RMWD property is utilized (Figure 13). Because potentially suitable habitat for listed wildlife species occurs along the proposed new offsite trail segment (4 feet wide by approximately 2,300 feet long) near the Ramona Airport and the proposed new offsite trail segment on the RMWD property, the construction and maintenance of these segments have the potential to result in impacts on wildlife species listed as federally or state endangered or threatened, if found to occur in the proposed impact area.

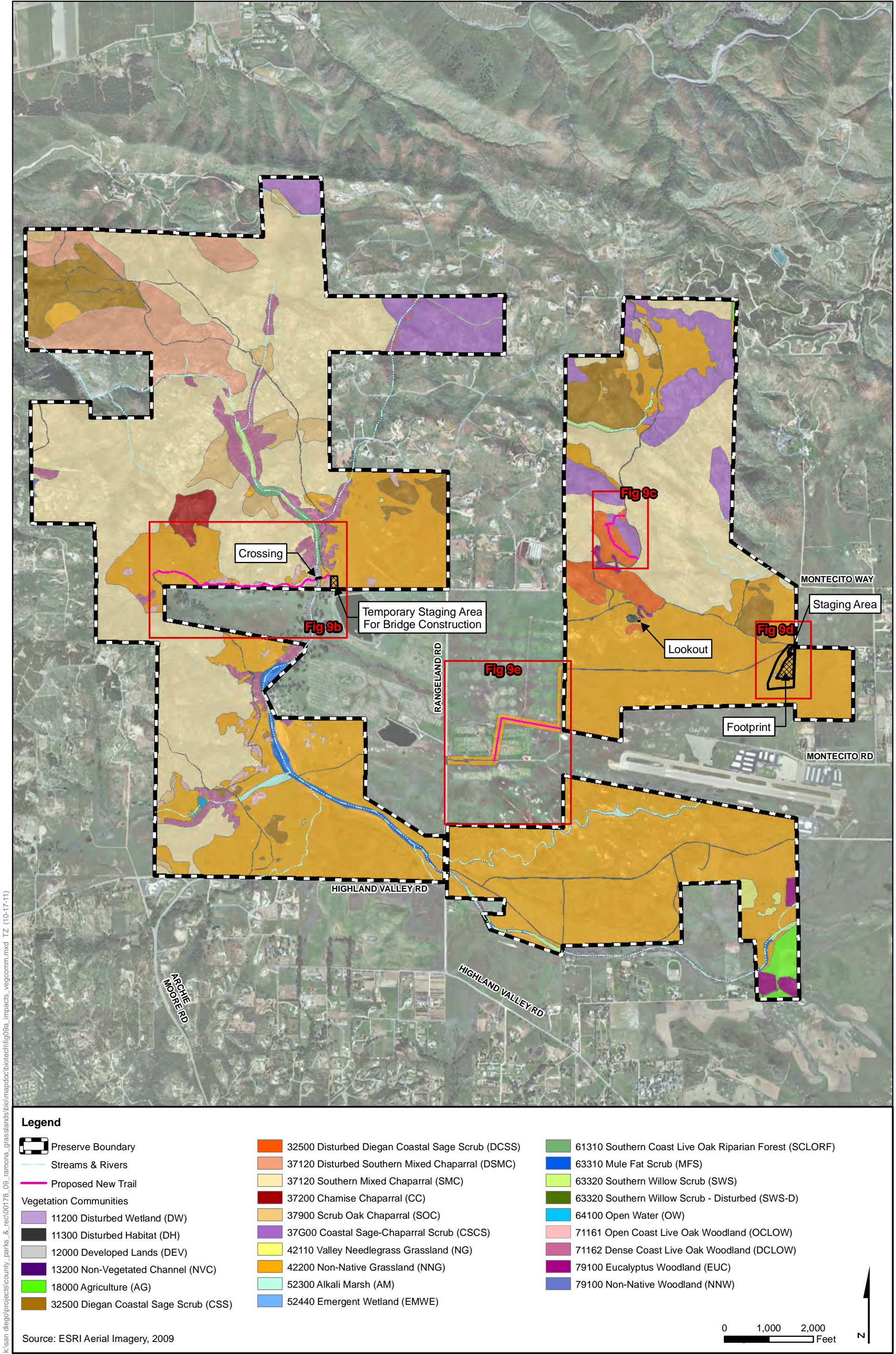


Figure 9a
Impacts to Vegetation Communities (Proposed Project)
Biological Resources Report for Ramona Grasslands Preserve Project

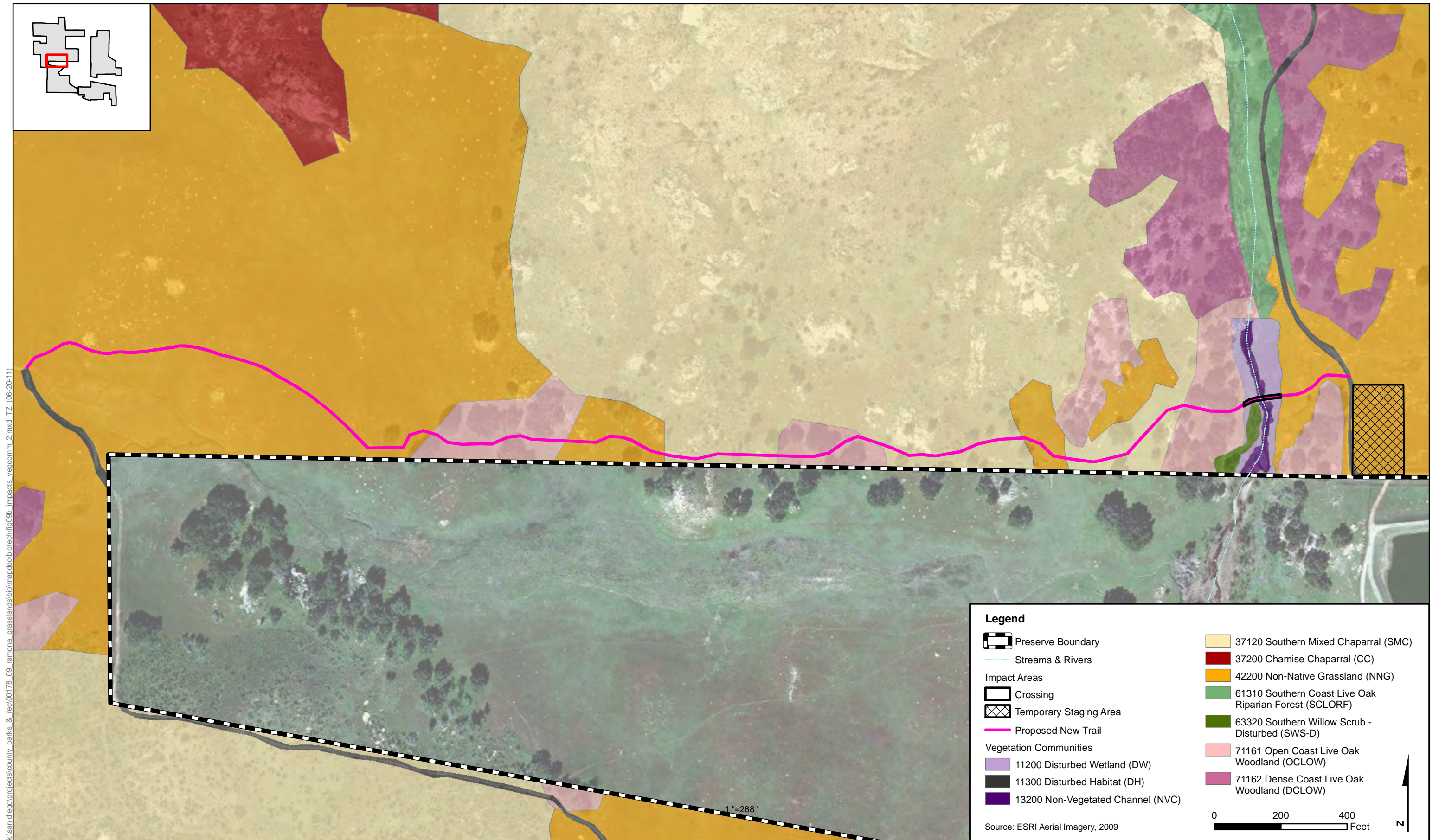
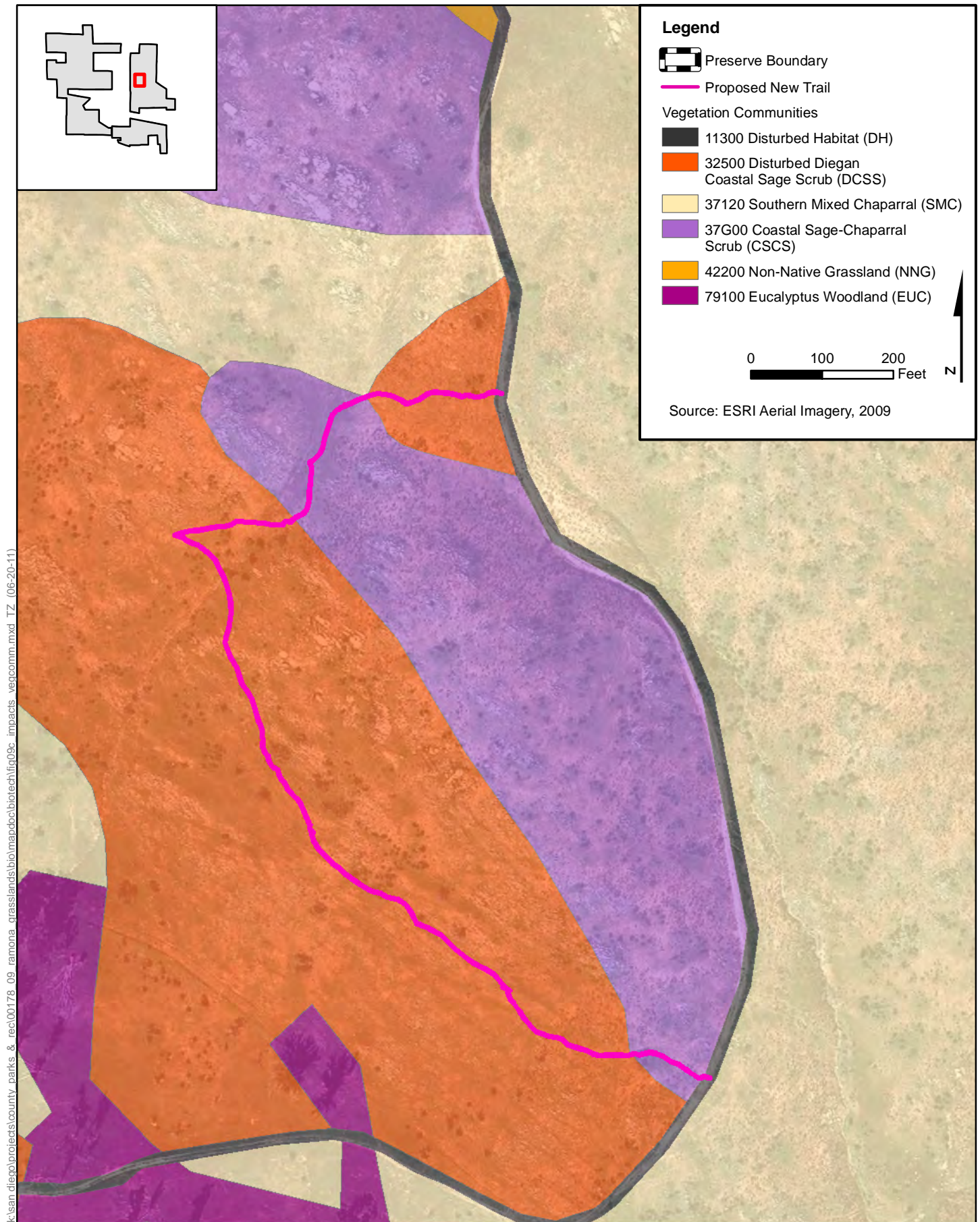


Figure 9b
Impacts to Vegetation Communities (Proposed Project)
Biological Resources Report for Ramona Grasslands Preserve Project



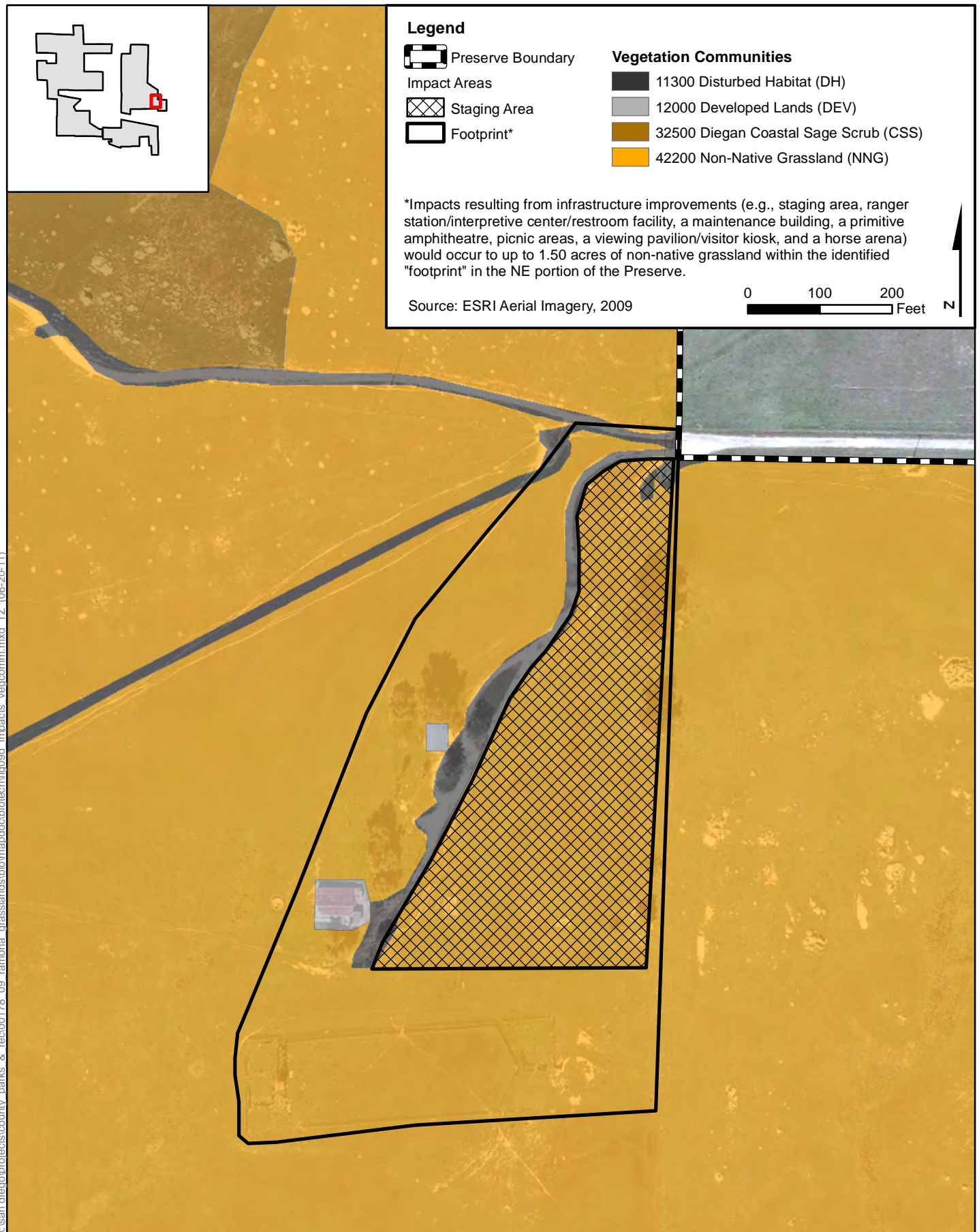


Figure 9d
Impacts to Vegetation Communities (Proposed Project)
Biological Resources Report for Ramona Grasslands Preserve Project

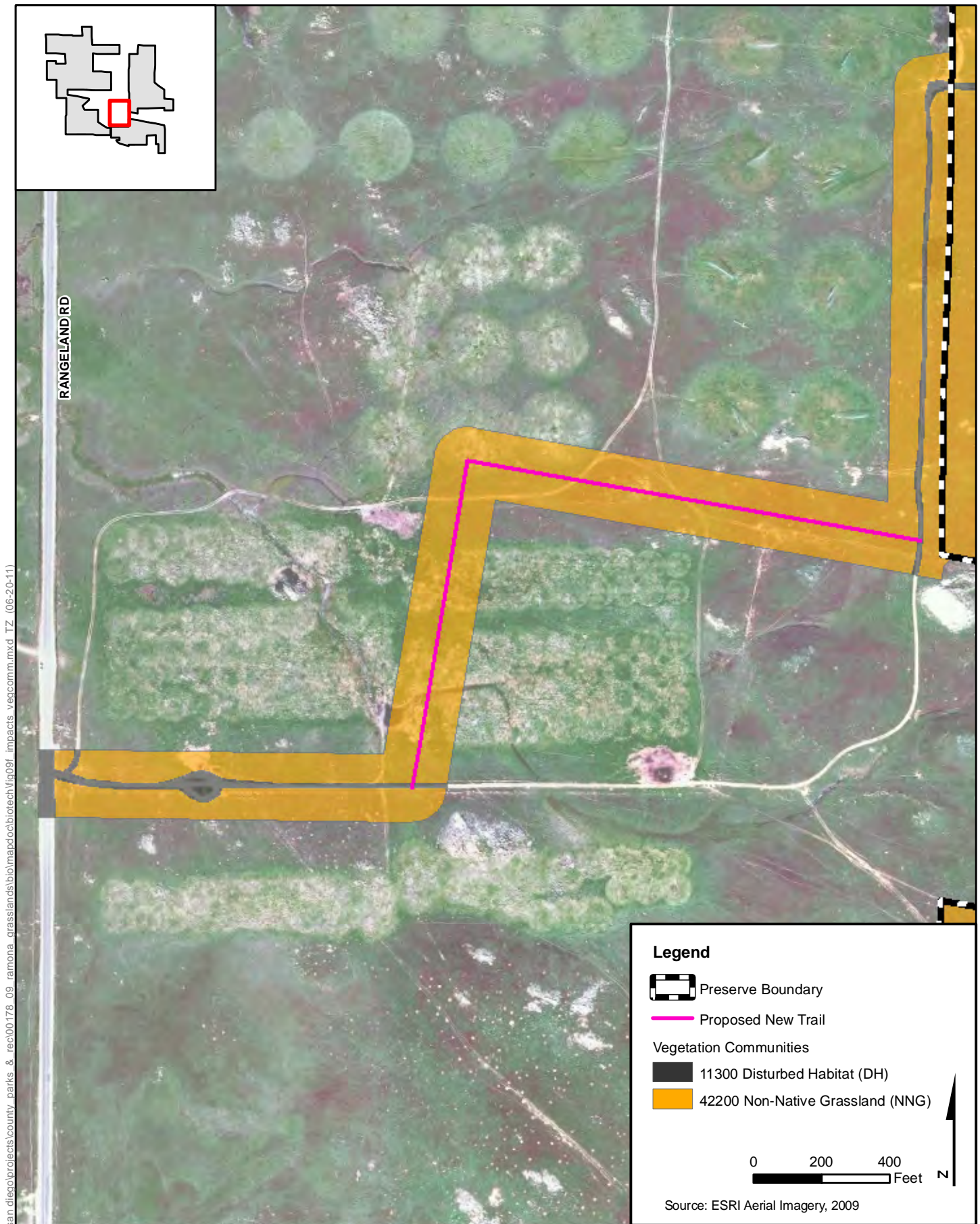
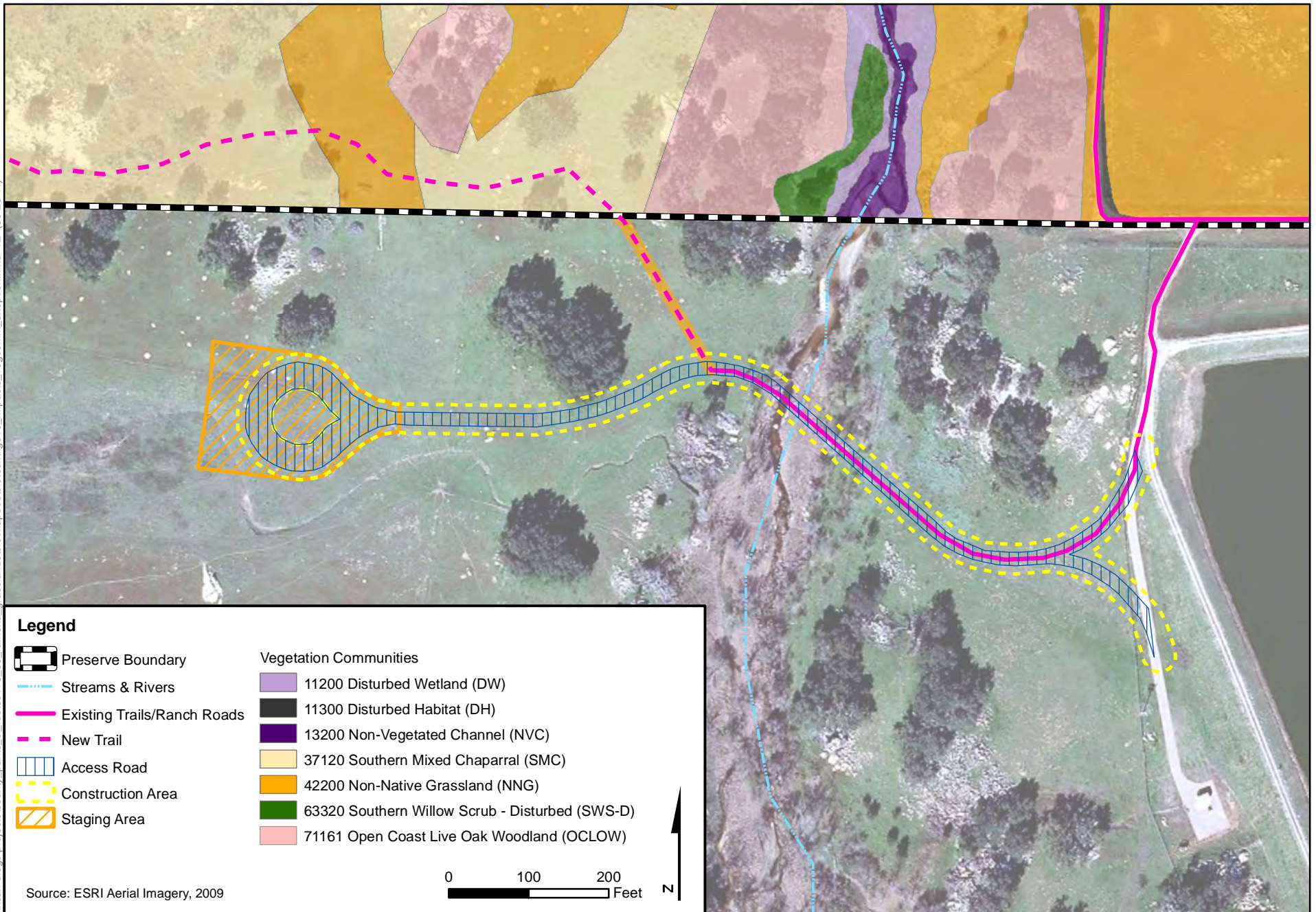
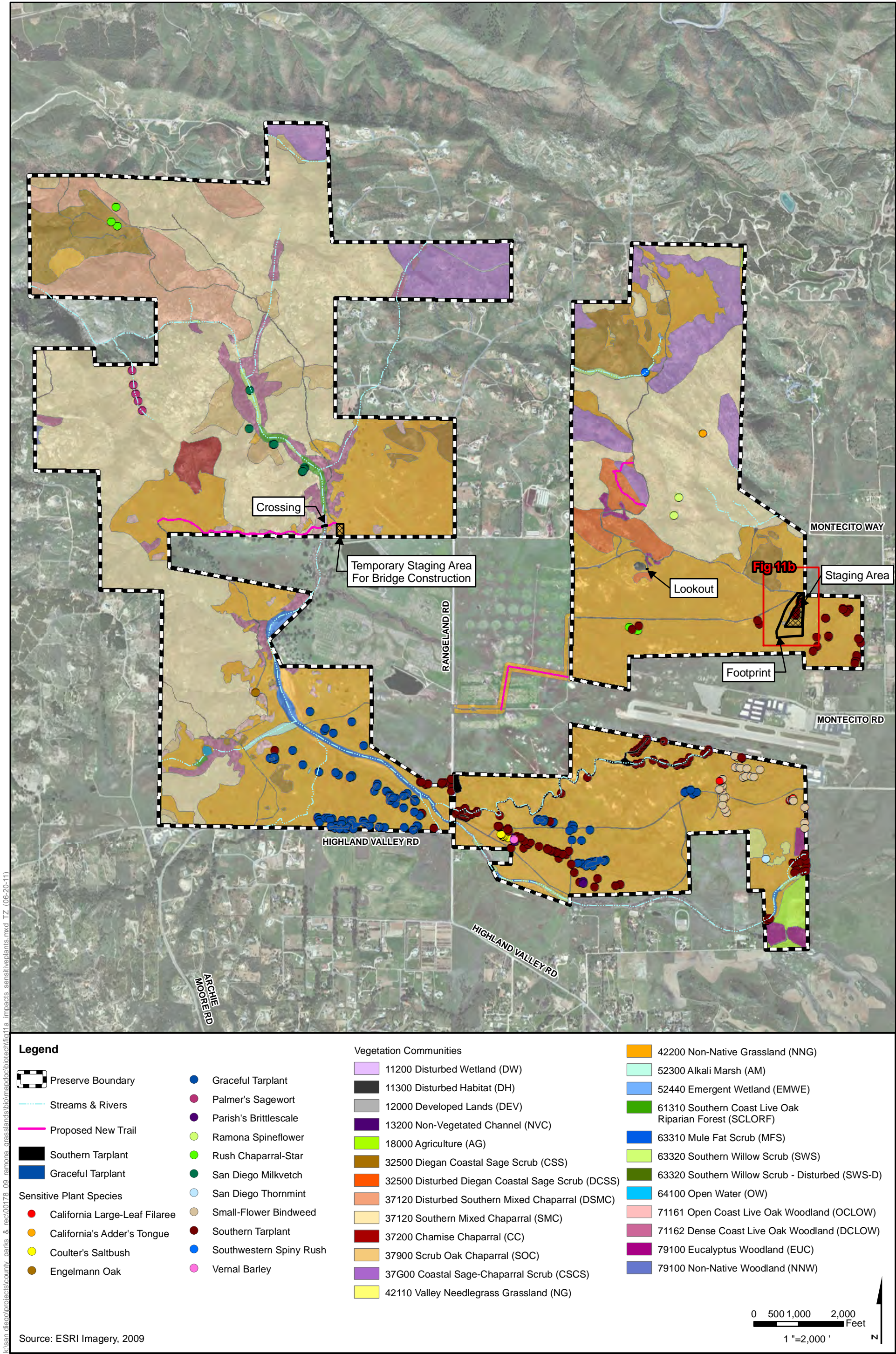


Figure 9e
Impacts to Vegetation Communities (Proposed Project)
Biological Resources Report for Ramona Grasslands Preserve Project

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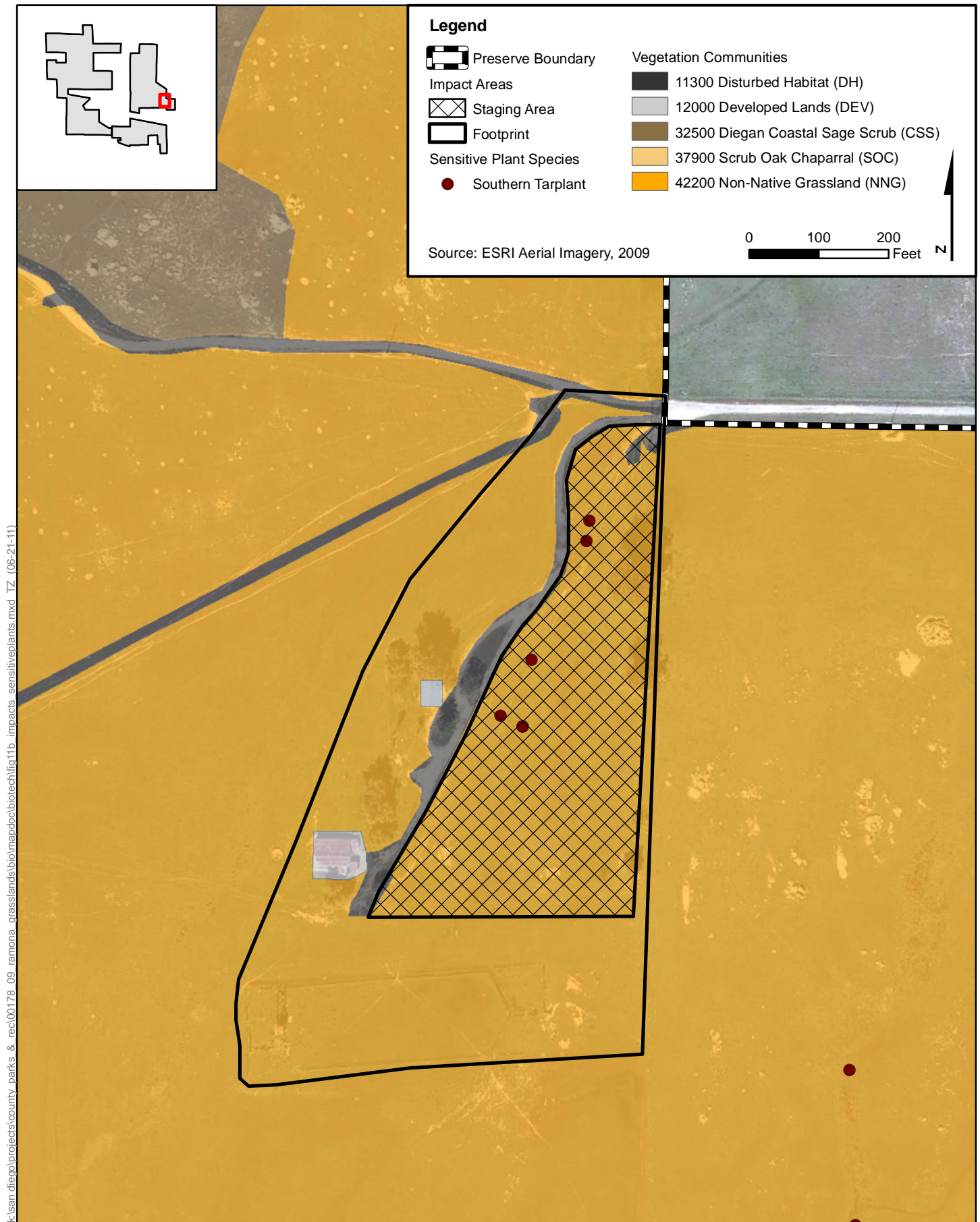


Figure 11b
Impacts to Sensitive Plant Species (Proposed Project)
Biological Resources Report for Ramona Grasslands Preserve Project

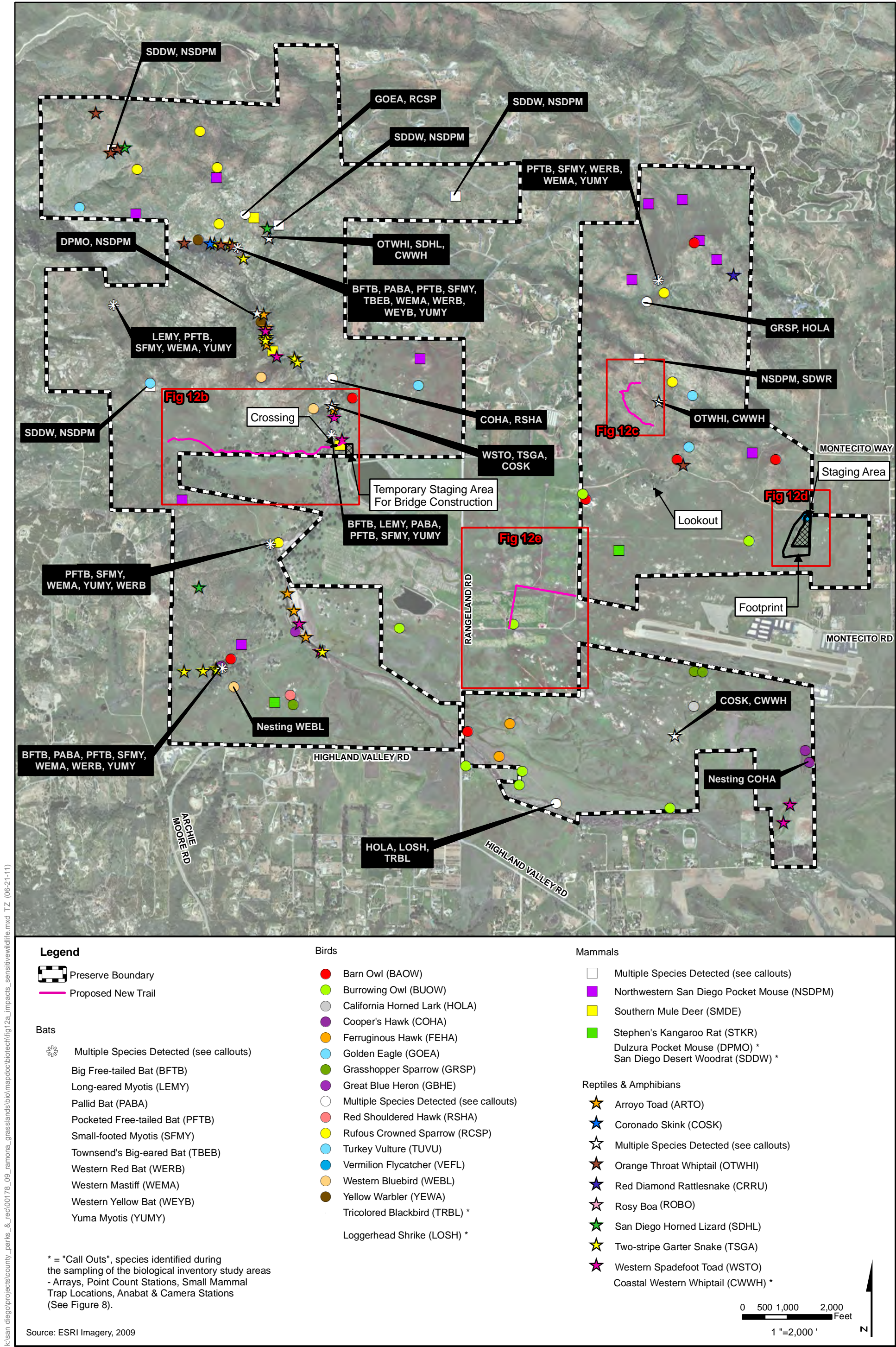


Figure 12a
Impacts to Sensitive Wildlife Species (Proposed Project)
Biological Resources Report for Ramona Grasslands Preserve Project

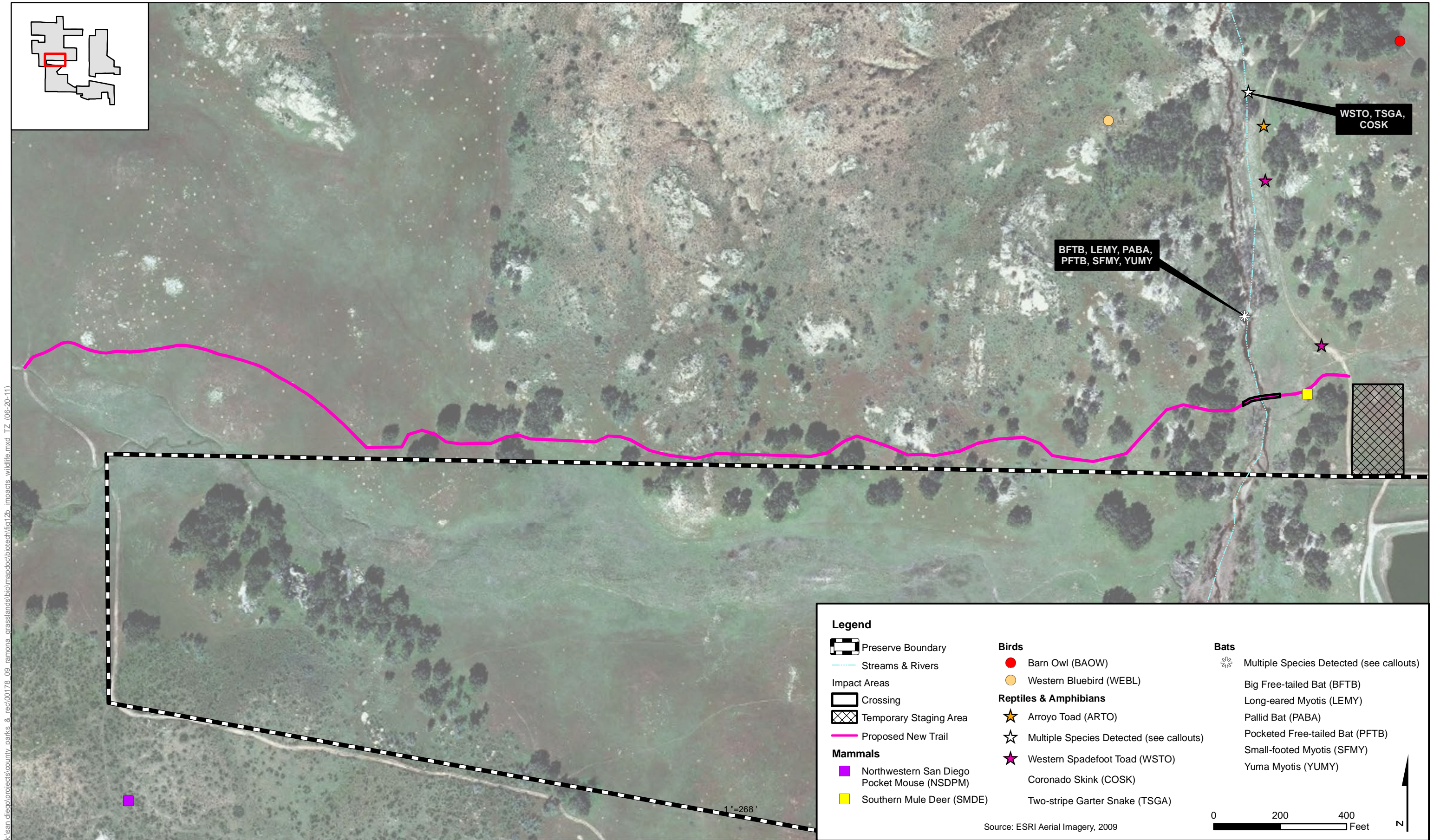
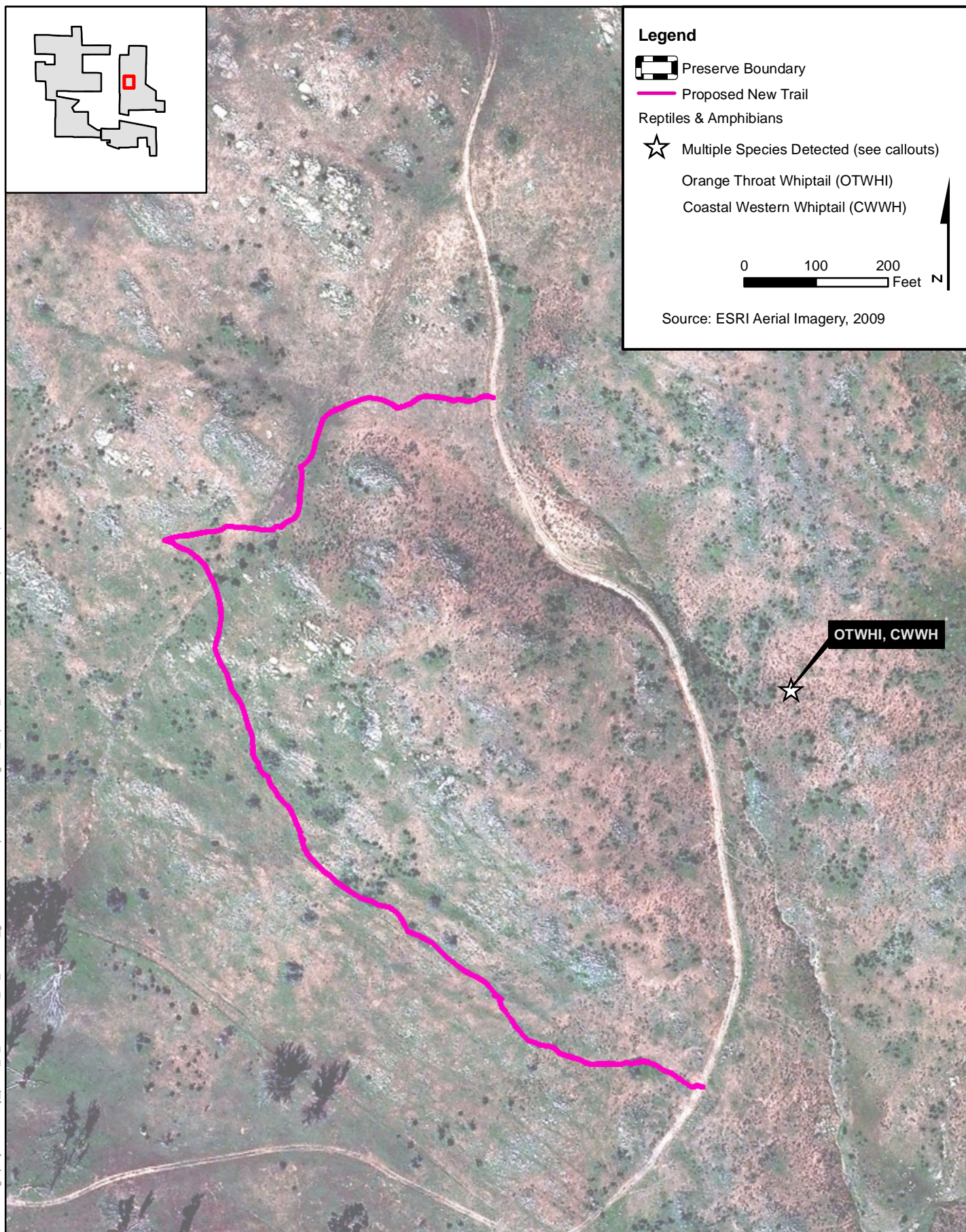
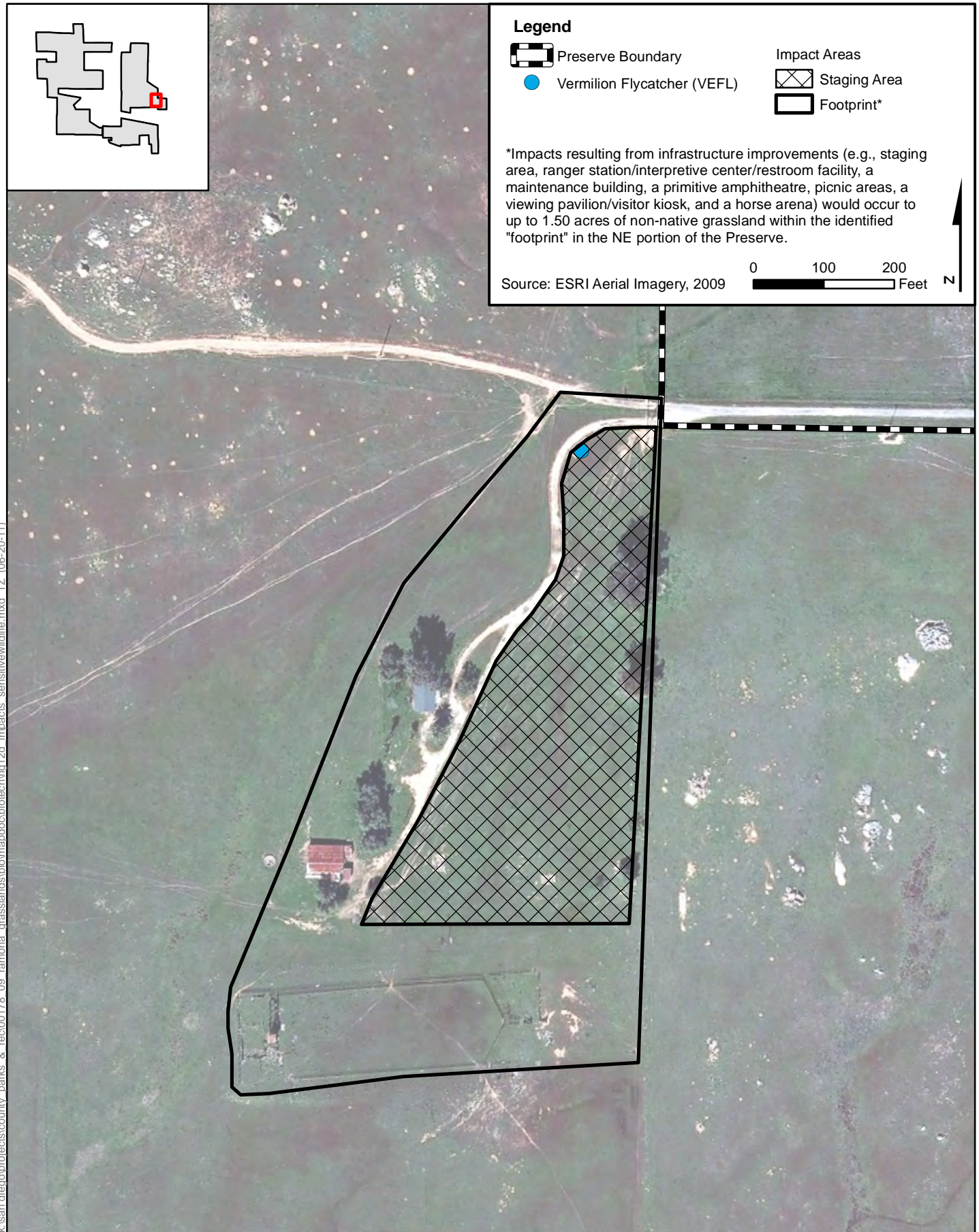


Figure 12b
Impacts to Sensitive Wildlife Species (Proposed Project)
Biological Resources Report for Ramona Grasslands Preserve Project

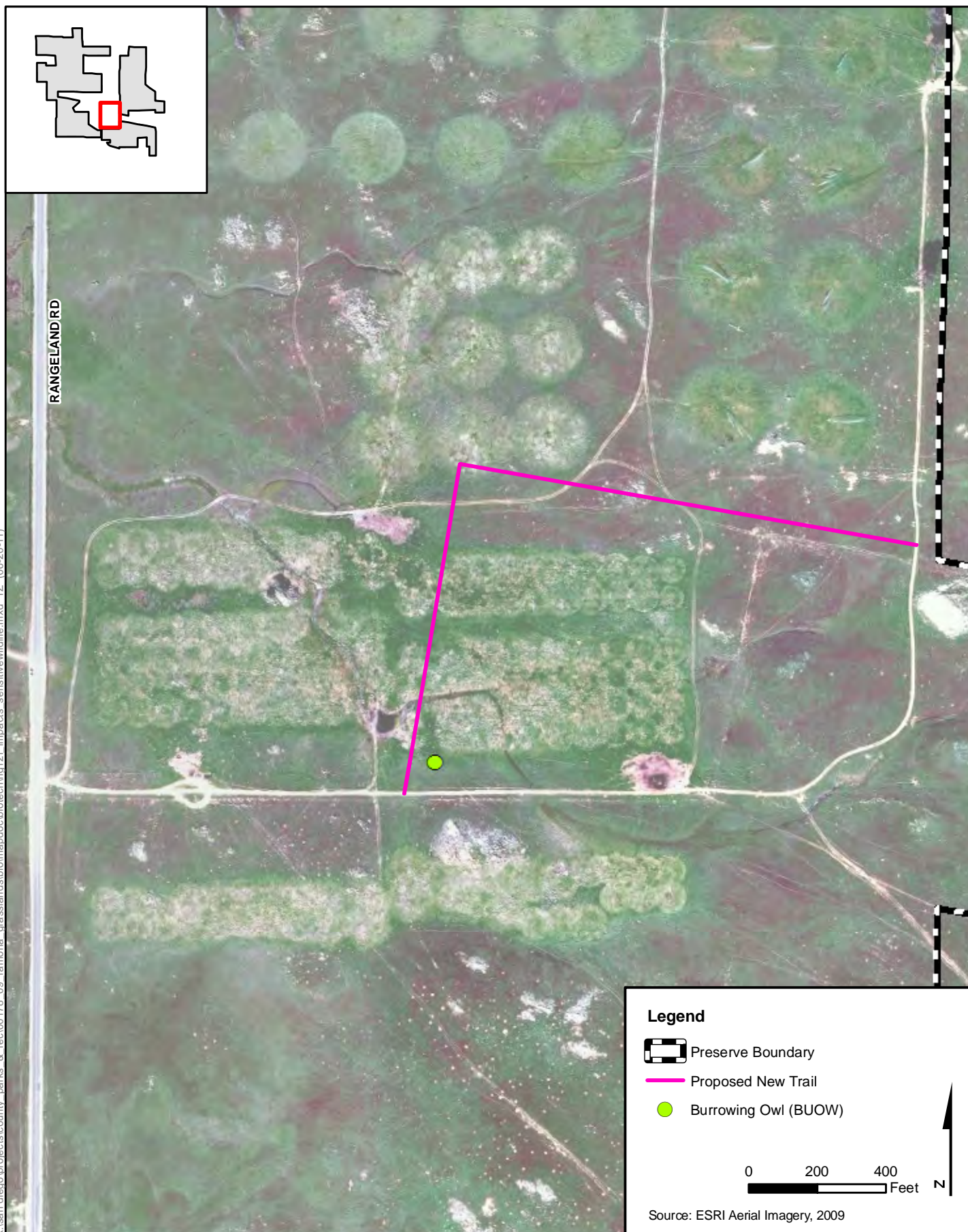
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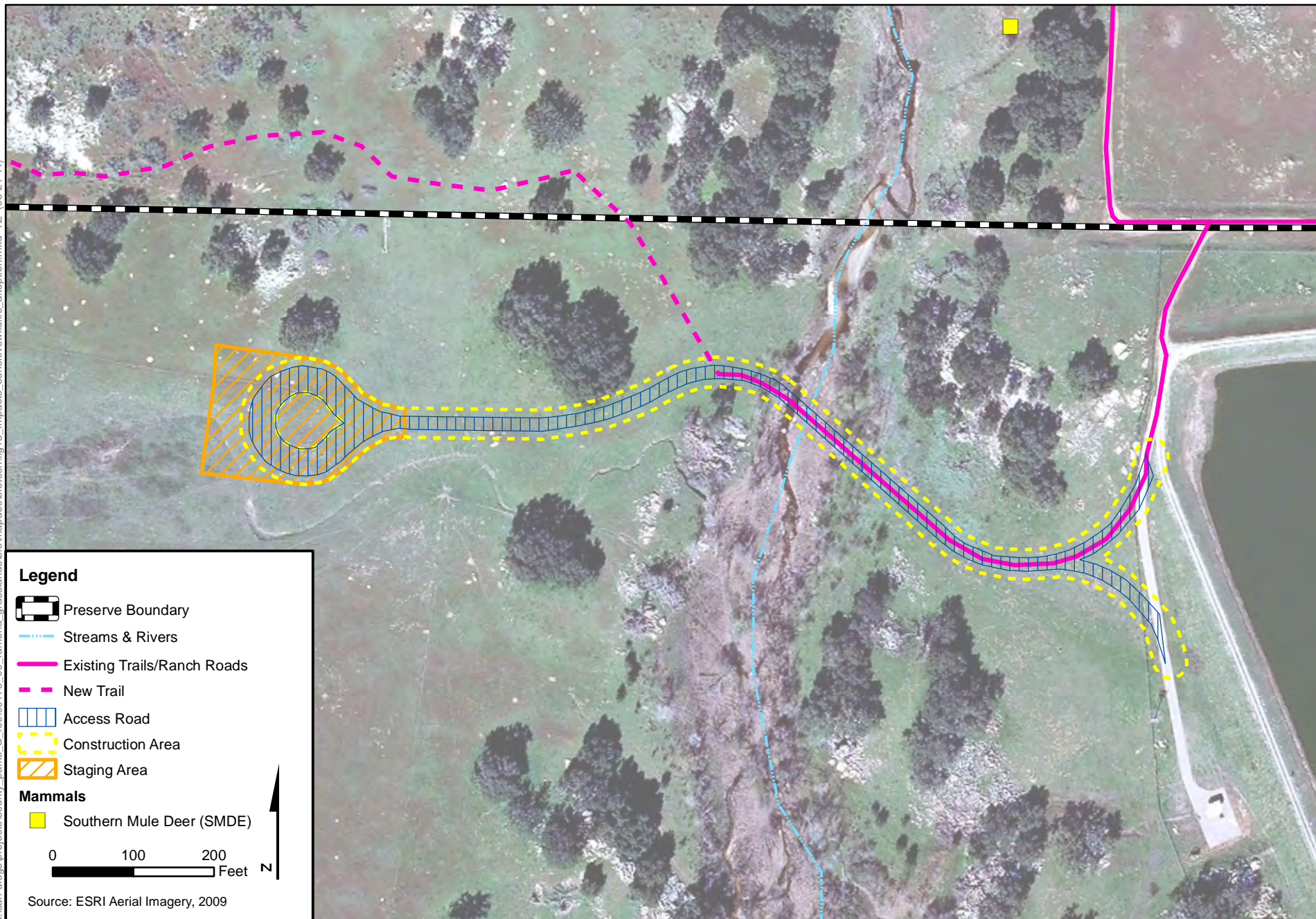


Table 2-1. Impacts on Sensitive Vegetation Communities (Proposed Project)

Vegetation Community ¹	New Trail Segment in NW Portion of the Preserve	Dry Weather Crossing of Santa Maria Creek (NW Portion of Preserve)	Temporary Staging Area (NW Portion)	New Offsite Trail Segment (East-West Connector Trail)	Staging Area (NE Portion)	New Trail Segment in NE Portion of the Preserve	Project Footprint for Other Improvements (NE Portion) ²	Totals
NNG	0.18	--	0.86	0.22	3.51	--	1.50	6.27
OLOW	0.08	--	--	--	--	--	--	0.08
Disturbed Wetland	--	0.006	--	--	--	--	--	0.006
Non-Vegetated Channel	--	0.002	--	--	--	--	--	0.002
SMC	0.11	--	--	--	--	--	--	0.11
CS-CS	--	--	--	--	--	0.03	--	0.03
DCSS	--	--	--	--	--	0.13	--	0.13
Totals	0.38	0.008	0.86	0.22	3.51	0.16	1.50	6.628

¹ NNG – Nonnative Grassland; OLOW – Open Coast Live Oak Woodland; SMC – Southern Mixed Chaparral; CS-CS – Coastal Sage-Chaparral Scrub; DCSS – Disturbed Coastal Sage Scrub

² Additional new infrastructure associated with the project includes a ranger station/interpretive center/restroom facility, a maintenance building, a primitive amphitheatre, picnic areas, a viewing pavilion/visitor kiosk, utility trenching, and a horse arena. A total of up to 1.50 acres of impacts on nonnative grassland would occur within the footprint depicted on Figures 3, 9d, and 11b as a result of these improvements.

Table 2-2. Project Impacts on Sensitive Vegetation Communities (Alternative Santa Maria Creek Crossing)

Vegetation Community ¹	New Trail Segment in NW Portion of the Preserve	New Offsite Trail Segment (on RMWD Property)	New Offsite Trail Segment (East-West Connector Trail)	Staging Area (NE Portion)	New Trail Segment in NE Portion of the Preserve	Project Footprint for Other Improvements (NE Portion) ²	Totals
NNG	0.17	0.03	0.22	3.51	--	1.50	5.43
OLOW	0.07	--	--	--	--	--	0.07
SMC	0.10	--	--	--	--	--	0.10
CS-CS	--	--	--	--	0.03	--	0.03
DCSS	--	--	--	--	0.13	--	0.13
Totals	0.34	0.03	0.22	3.51	0.16	1.50	5.76

¹ NNG – Nonnative Grassland; OLOW – Open Coast Live Oak Woodland; SMC – Southern Mixed Chaparral; CS-CS – Coastal Sage-Chaparral Scrub; DCSS – Disturbed Coastal Sage Scrub

² Additional new infrastructure associated with the project includes a ranger station/interpretive center/restroom facility, a maintenance building, a primitive amphitheatre, picnic areas, a viewing pavilion/visitor kiosk, utility trenching, and a horse arena. A total of up to 1.50 acres of impacts on nonnative grassland would occur within the footprint depicted on Figures 3, 9d, 11b as a result of these improvements.

Construction of the dry weather crossing at Santa Maria Creek in the NW portion of the Preserve and the new potential offsite trail segment required if the alternative crossing of Santa Maria Creek on the RMWD is utilized have the potential to result in direct impacts on arroyo toad because these areas provide potentially suitable habitat for this federally listed species, which was observed upstream of these areas (Figures 12a–12e and 13). In addition, trail maintenance activities within the vicinity of occupied toad habitat have the potential to result in impacts on this species.

The project may potentially impact arroyo toad aestivation and breeding habitat. Approximately 1.24 acres of suitable arroyo toad aestivation upland habitat (0.38 acre within the proposed trail alignment and 0.86 acre within the temporary staging area) and 0.008 acre of breeding wetland/riparian habitat (within the footprint of the dry weather crossing) would be directly affected by the project (Table 2-1). If the alternative Santa Maria Creek crossing on the RMWD property is utilized, the project's impact on arroyo toad habitat would be reduced to 0.37 acre of suitable aestivation upland habitat (0.34 acre within the proposed onsite trail alignment and 0.03 acre within the potential offsite section within the RMWD property) (Table 2-2).

The entire Santa Maria Creek south of the RMWD property has been fenced to exclude cattle grazing, allow for passive restoration of riparian habitat, and protect suitable/occupied arroyo toad habitat. Ten bulls currently graze in the NW portion of the Preserve, which also supports a section of Santa Maria Creek, between June and November of each year. With the proposed project, cattle will be excluded from the NW portion of the Preserve during the arroyo toad breeding season. Therefore, impacts on arroyo toad from continued grazing is not anticipated to occur.

Stephens' kangaroo rats were observed along the Oak Country II trail in the SW portion of the Preserve as well as within the southwestern corner of the NE portion of the Preserve (Figure 12a). In addition, most of the grasslands within the Preserve are considered suitable habitat for this species to occur. The construction and maintenance of trails in the vicinity of these areas have the potential to result in direct and/or indirect impacts on Stephens' kangaroo rat.

The project is known to support or has the potential to support tree-nesting raptors (e.g., Cooper's hawk, red-shouldered hawk, ferruginous hawk, etc.), ground-nesting raptors (e.g., northern harrier and burrowing owl), and the golden eagle. The project is not anticipated to result in impacts on the nesting success of the golden eagle because the project maintains a 4,000-foot buffer from new trail construction and associated ground disturbing activities to the known offsite eagle nest. However, the project could impact the nesting success of tree- and/or ground-nesting raptors if grading, clearing, or other noise generating construction activities would occur during their breeding season, defined as January 15 to July 15 and February 1 to July 31, respectively.

Specific measures implemented under the Preserve RMP and/or Preserve VMP, such as nonnative plant removal, habitat restoration, and fire management, could result in impacts on sensitive wildlife species. However, such impacts would not be considered significant and, as part of the long-term maintenance and adaptive management of the Preserve, would serve to protect and enhance the sensitive wildlife species found within the Preserve.

2.2.4 Wetlands and Jurisdictional Waters

The proposed dry weather crossing of Santa Maria Creek in the NW portion of the Preserve would result in direct impacts on 0.008 acre of jurisdictional wetland waters of the U.S./State and CDFG streambed (Figures 14 and 14a, Table 2-3). Use of the alternative crossing of Santa Maria Creek on

the RMWD property would not result in impacts on jurisdictional resources because this option would only be utilized, with permission from the RMWD, after RMWD constructs the crossing.

Drainage 3 crosses a section of Old Survey Road that has not been actively maintained. The drainage channel supports a mesic vegetation community, which is evidence that water intermittently flows through this approximately 3- to 6-foot-wide channel; no culvert exists at this location. Construction and maintenance of the proposed trail along this section of Old Survey Road would result in impacts on 18 square feet (0.0004 acre) regulated as a non-wetland WoUS and 36 square feet (0.0008 acre) regulated as a CDFG streambed (Figures 14, 14a, and 14b).

Table 2-3. Impacts on Jurisdictional Waters

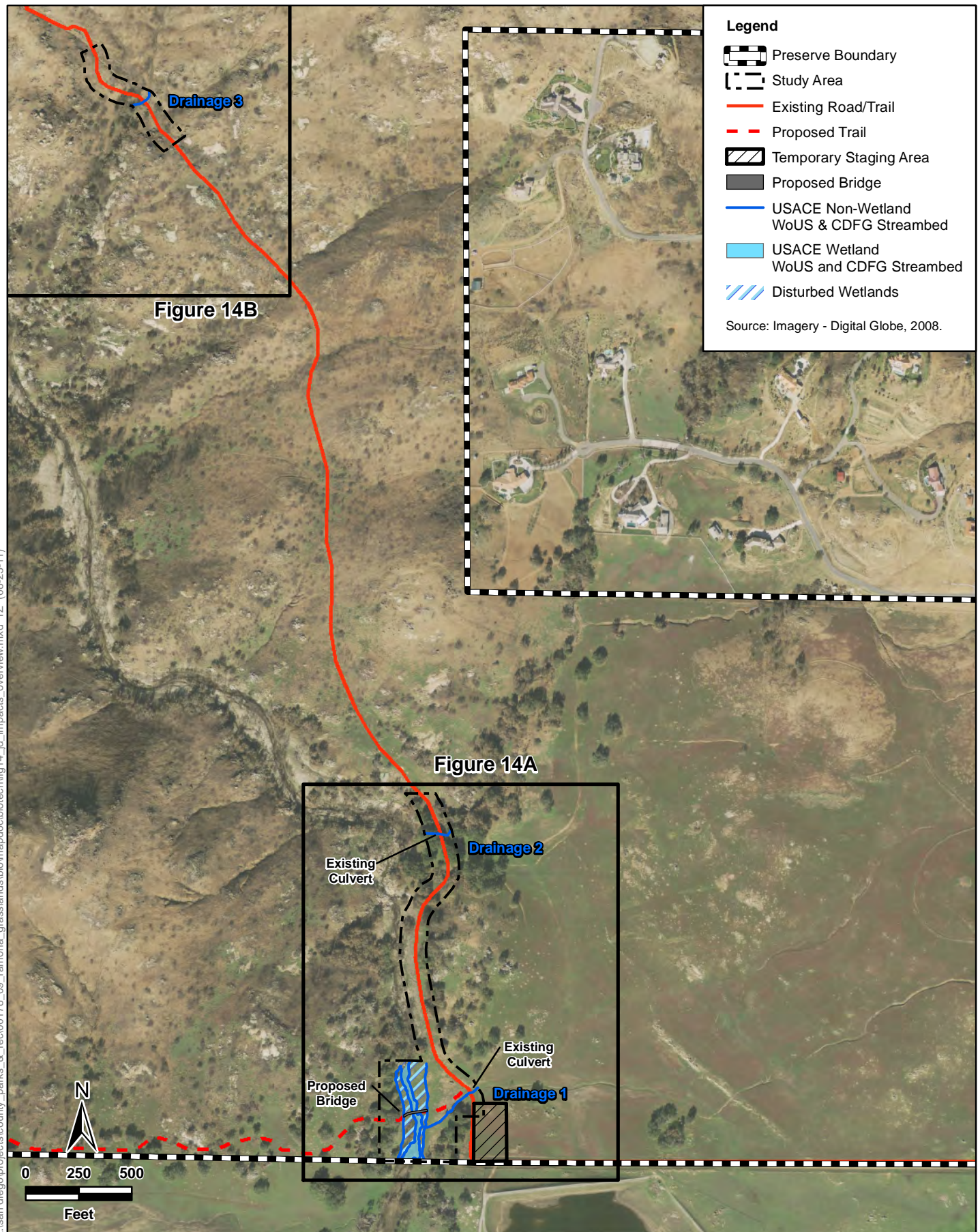
Jurisdiction	Vegetation Community	Direct Impacts (acres)
USACE/RWQCB Wetland and CDFG Streambed	Disturbed Wetland	0.006
USACE/RWQCB Wetland and CDFG Streambed	Non-vegetated Channel ¹	0.002
USACE/RWQCB Non-Wetland Waters and CDFG Streambed	Overgrown dirt road (disturbed habitat) ²	0.0004
Additional CDFG Streambed (only)	Overgrown dirt road (disturbed habitat) ²	0.0004
Totals		0.0088

¹ Non-vegetated channel was determined to support hydric soils, hydrology, and likely would support hydrophytic vegetation if the area had not been subject to grazing.

² The proposed trail follows the existing alignment of Old Survey Road. No culvert exists where Drainage 3 crosses an overgrown section of Old Survey Road, and, while some vegetation exists within the roadbed, the area is mapped as disturbed/developed.

2.2.5 Wildlife Corridors, Linkages, and Nursery Sites

It is anticipated that there will be no impacts on wildlife corridors, linkages, and nursery sites. The proposed project area consists of the approximately 3,490-acre Preserve, and the project includes implementation of the Preserve RMP and Preserve VMP and only minimal new trail sections and associated facilities/improvements. The proposed project is not likely to disrupt wildlife movement because no new buildings or other obtrusive objects are expected that would preclude continued wildlife movement within and through the Preserve. In addition, long lines-of-sight will not be obstructed by new development and; therefore, wildlife will still be able to pass through the project area without hindrance.



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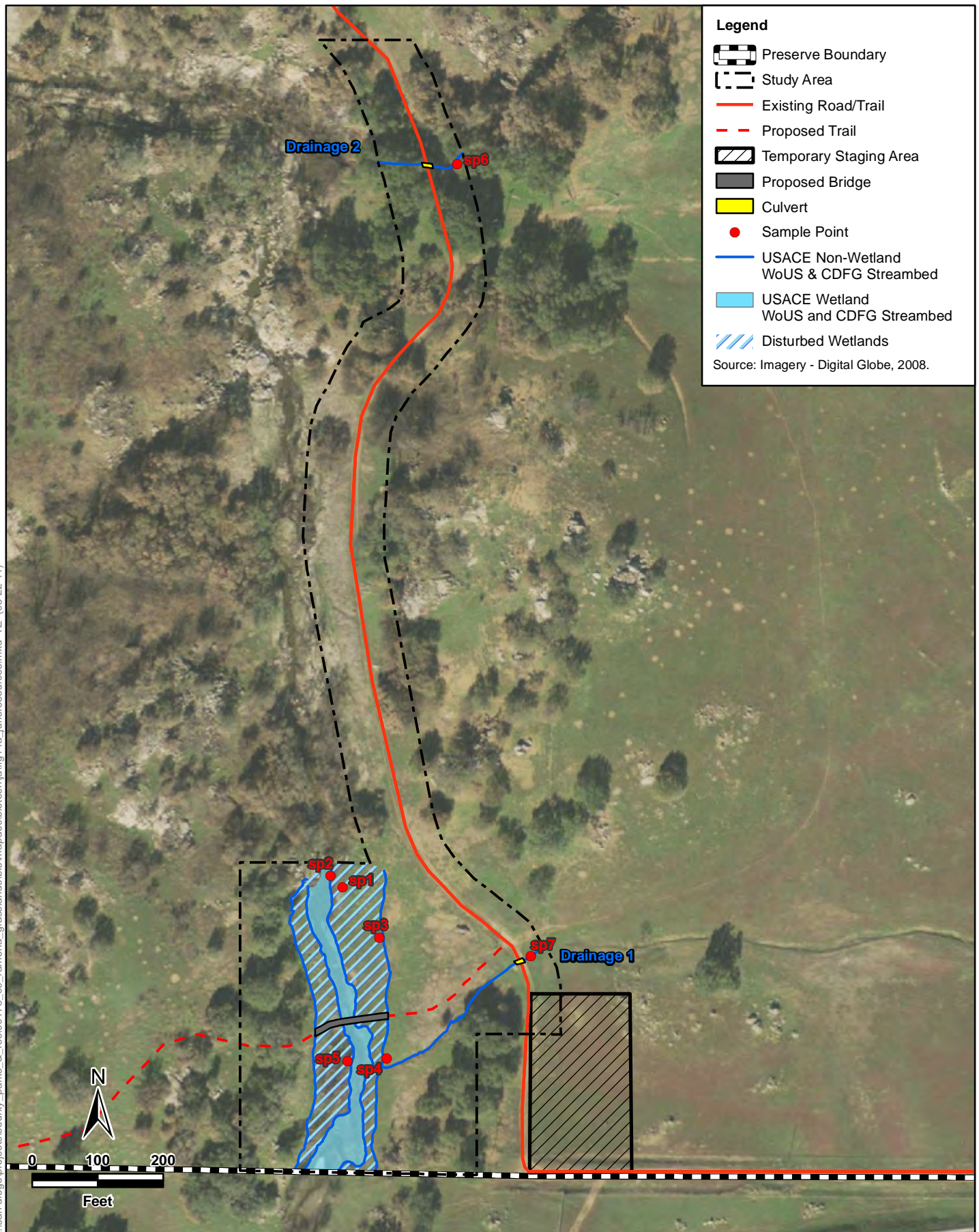
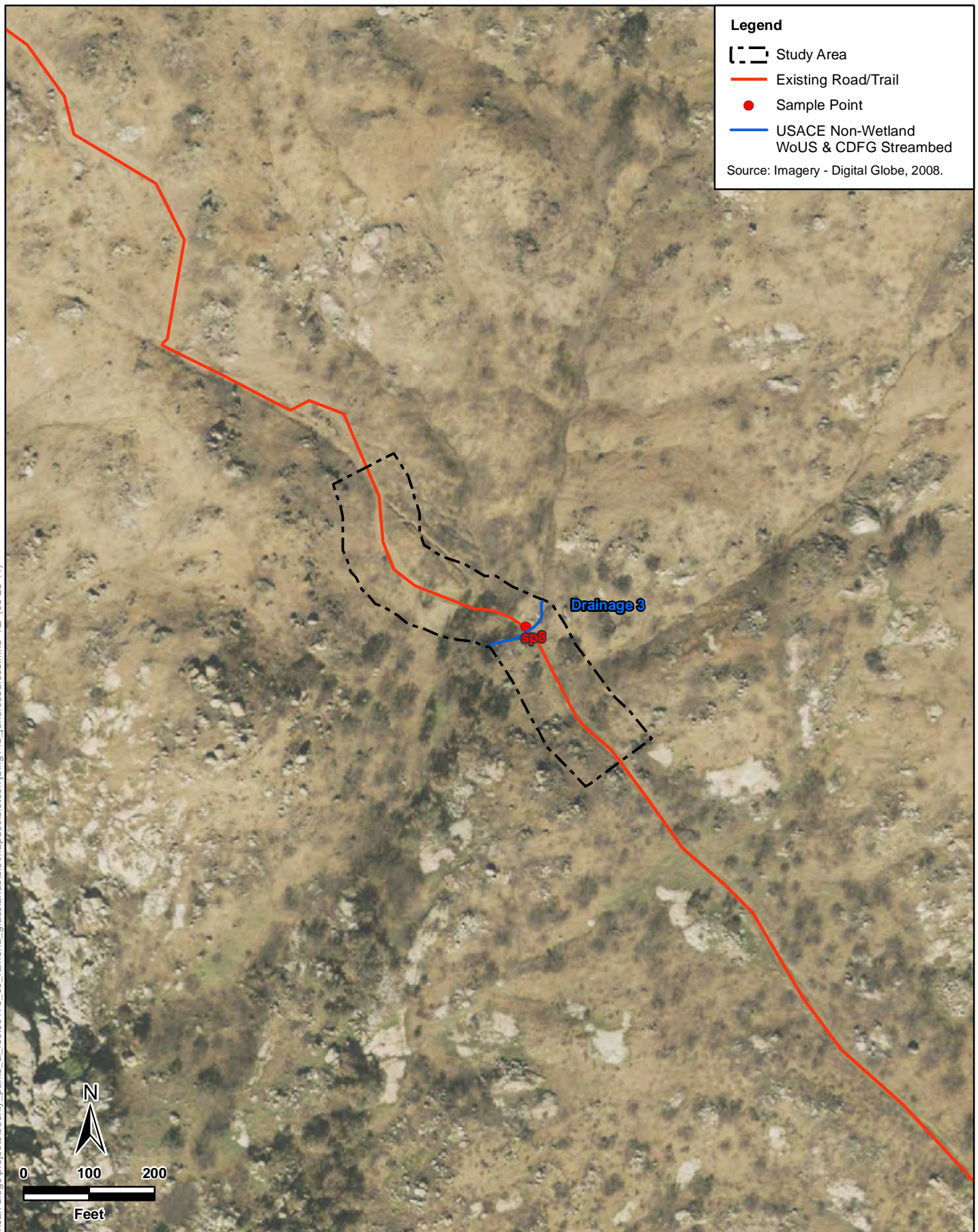


Figure 14A
Impacts to Jurisdictional Resources
Ramona Grasslands Preserve

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3.1 Guidelines for the Determination of Significance

A project would have a potentially significant effect on biological resources if:

the project would have a substantial adverse effect, either directly or through habitat modifications, on a candidate, sensitive, or special-status species listed in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Specifically, any of the following conditions would be considered significant:

- a. The project would impact one or more individuals of a species listed as federally or state endangered or threatened.
- b. The project would impact an onsite population of a County List A or B plant species, or a County Group I animal species, or a species listed as a state Species of Special Concern. Impacts on these species are considered significant; however, impacts of less than 5% of the individual plants or of the sensitive species' habitat on a project site may be considered less than significant if a biologically based determination can be made that the project would not have a substantial adverse effect on the local long-term survival of that plant or animal taxon.
- c. The project would impact the local long-term survival of a County List C or D plant species or a County Group II animal species.
- d. The project may impact arroyo toad aestivation, foraging or breeding habitat. Any alteration of suitable habitat within 1 kilometer (3,280 feet) in any direction of occupied breeding habitat or suitable stream segments (unless very steep slopes or other barriers constrain movement) could only be considered less than significant if a biologically-based determination can be made that the project would not impact the aestivation or breeding behavior of arroyo toads.
- e. The project would impact golden eagle habitat. Any alteration of habitat within 4,000 feet of an active golden eagle nest could only be considered less than significant if a biologically based determination can be made that the project would not have a substantially adverse effect on the long-term survival of the identified pair of golden eagles.
- f. The project would result in the loss of functional foraging habitat for raptors. Impacts on raptor foraging habitat is considered significant; however, impacts of less than 5% of the raptor foraging habitat on a project site may be considered less than significant if a biologically based determination can be made that the project would not have a substantial adverse effect on the local long-term survival of any raptor species.
- g. The project would impact the viability of a core wildlife area, defined as a large block of habitat (typically 500 acres or more not limited to project boundaries, though smaller areas with particularly valuable resources may also be considered a core wildlife area) that supports a viable population of a sensitive wildlife species or supports multiple wildlife species. Alteration of any portion of a core habitat could only be considered less than significant if a biologically

based determination can be made that the project would not have a substantially adverse effect on the core area and the species it supports.

- h. The project would cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive species over the long term. The following issues should be addressed in determining the significance of indirect impacts: increasing human access; increasing predation or competition from domestic animals, pests, or exotic species; altering natural drainage; and increasing noise and/or nighttime lighting to a level above ambient that has been shown to adversely affect sensitive species.
- i. The project would impact occupied burrowing owl habitat.
- j. The project would impact occupied cactus wren habitat, or formerly occupied coastal cactus wren habitat that has been burned by wildfire.
- k. The project would impact occupied Hermes copper habitat.
- l. The project would impact nesting success of the following sensitive bird species through grading, clearing, fire fuel modification, and/or other noise generating activities such as construction.

Species ¹	Breeding Season
Coastal cactus wren	February 15 to August 15
Coastal California gnatcatcher*	February 15 to August 31
Least Bell's vireo	March 15 to September 15
Southwestern willow flycatcher	May 1 to September 1
Tree-nesting raptors	January 15 to July 15
Ground-nesting raptors	February 1 to July 15
Golden eagle	January 1 to July 31
Light-footed clapper rail ²	February 15 to September 30

¹ The breeding seasons listed in this table do not supersede implementing agreements with the Wildlife Agencies, Habitat Conservation Plans (HCPs), Habitat/Resource Management Plans (HMPs/RMPs), and Special Area Management Plans (SAMPs). For example, inside the MSCP Subarea Plan, the gnatcatcher breeding season is March 1 to August 15.

² The light-footed clapper rail is a CDFG fully protected species and under the Fish and Game Code, CDFG does not allow "take" of fully protected species.

3.2 Analysis of Project Effects

3.2.1 Project Impacts Relevant to Guideline 3.1.a

3.2.1.1 Plant Species

Federally and/or state-listed plant species observed within the Preserve are limited to: San Diego thornmint. While specific measures implemented under the Preserve RMP and Preserve VMP (such as continued grazing and vegetation management) would result in ground disturbance and, as such,

could result in impacts on listed plants species, such impacts would not be considered significant. These plans involve long-term maintenance and management of the Preserve for the benefit of biological resources, including listed plant species.

Construction of the new trail segments within the Preserve would not result in direct impacts on federally or state endangered or threatened plant species as none were observed within these proposed impact areas during any of the surveys conducted at the Preserve. Trails have been designed such that they are not subject to erosion. Although not anticipated future re-routing of trail sections to avoid areas subject to erosion would result in ground disturbance. However, direct impacts on federally or state endangered or threatened plant species would not occur as a result of such activities because trails would be re-routed to the least environmentally sensitive areas and would avoid populations of listed plant species.

Focused surveys for special-status plant species were not conducted outside of the identified Preserve boundaries, including within the impact area of the proposed new trail section to be constructed east of Rangeland Road and west of the Ramona Airport, the proposed pathways along the west side of Rangeland Road and the north side of Highland Valley Road, and the impact area of the proposed new trail section that would be required if the alternative crossing of Santa Maria Creek on the RMWD property is utilized (Figure 3). Impacts associated with the proposed pathways would occur within the County-maintained right-of-way; therefore, impacts on federally or state-listed plant species are not anticipated to occur as a result of construction of the pathways.

As potentially suitable habitat for listed plant species occurs along the proposed new offsite trail segment (4 feet wide by approximately 2,300 feet long) near the Ramona Airport and the potential new offsite trail segment on the RMWD property, the construction and maintenance of these segments have the potential to result in impacts on plant species listed as federally or state endangered or threatened, if found to occur in the proposed impact area (**Impact Bio-3a**).

Indirect impacts on federally or state-listed plant species during construction of new trail segments or as a result in trail usage are not anticipated to occur because listed plant species observed within the Preserve were limited to approximately 30 individuals of San Diego thornmint that were observed within the SE portion of the Preserve, more than 500 feet from any proposed trails or associated facilities/improvements.

3.2.1.2 Wildlife Species

The following federally and/or state listed wildlife species were detected within the Preserve: Stephens' kangaroo rat, arroyo toad, and San Diego fairy shrimp. While specific measures implemented under the Preserve RMP and Preserve VMP (such as continued grazing, nonnative plant species removal, and vegetation management) could result in ground disturbance and impacts on suitable/occupied habitat for sensitive wildlife species, such impacts would not be considered significant. These plans involve long-term maintenance and management of the Preserve for the benefit of biological resources, including the sensitive wildlife species found within the Preserve.

San Diego fairy shrimp occur within the Preserve but not in the vicinity of proposed new trails or associated improvements/facilities. The proposed establishment, maintenance, and management of the Preserve would protect vernal pools and known populations of San Diego fairy shrimp.

Construction of the new trail segment across Santa Maria Creek in the NW portion of the Preserve and the new potential offsite trail segment required if the alternative crossing of Santa Maria Creek

on the RMWD property is utilized have the potential to result in direct impacts on arroyo toad because these areas provide potentially suitable habitat for this federally listed species, which was observed upstream of these areas. In addition, trail maintenance activities within the vicinity of suitable/occupied toad habitat have the potential to result in impacts on the arroyo toad (**Impact Bio-3b**).

Stephens' kangaroo rats were observed along the Oak Country II trail in the SW portion of the Preserve as well as within the southwestern corner of the NE portion. In addition, most of the grasslands within the Preserve are considered suitable habitat for this species to occur. The construction and maintenance of trails in the vicinity of these areas have the potential to result in direct and/or indirect impacts on Stephens' kangaroo rat (**Impact Bio-3c**).

Focused surveys for listed wildlife species were not conducted outside of the identified Preserve boundaries, including within the impact area of the proposed new trail section to be constructed east of Rangeland Road and west of the Ramona Airport, the proposed pathways along the west side of Rangeland Road and the north side of Highland Valley Road, and the impact area of the proposed new trail section that would be required if the alternative crossing of Santa Maria Creek on the RMWD property is utilized (Figure 3). Impacts associated with the proposed pathways would occur within the County-maintained right-of-way; therefore, impacts on federally or state-listed wildlife species are not anticipated to occur as a result of construction of the pathways.

Because potentially suitable habitat for listed wildlife species occurs along the proposed new offsite trail segment (4 feet wide by approximately 2,300 feet long) near the Ramona Airport and the potential new offsite trail segment on the RMWD property, the construction and maintenance of these segments have the potential to result in impacts on wildlife species listed as federally or state endangered or threatened, if found to occur in the proposed impact area (**Impact Bio-3d**).

3.2.2 Project Impacts Relevant to Guideline 3.1.b

3.2.2.1 Plant Species

The following County List A or B plant species were identified within the Preserve: Coulter's saltbush, Parish's brittlescale, southern tarplant, San Diego milkvetch, and California large-leaf filaree. Implementation of the Preserve RMP and Preserve VMP would not result in significant impacts on the County List A or B plant species identified within the Preserve. These plans involve long-term maintenance and management of the Preserve for the benefit of biological resources, including County list A and B plant species.

Construction of the new trail segments within the Preserve would not result in direct impacts on County List A or B plant species identified in the Preserve as none were observed within the proposed impact areas during any of the surveys conducted at the Preserve. Trail maintenance activities would result in ground disturbance. However, direct impacts on County List A and B plant species would not occur as a result of such activities because trails would be re-routed to the least environmentally sensitive areas and would avoid populations of special-status plant species.

Focused surveys for special-status plant species were not conducted outside of the identified Preserve boundaries, including within the impact area of the proposed new trail section to be constructed east of Rangeland Road and west of the Ramona Airport, the proposed pathways along the west side of Rangeland Road and the north side of Highland Valley Road, and the impact area of the proposed new trail section that would be required if the alternative crossing of Santa Maria

Creek on the RMWD property is utilized (Figure 3). Impacts associated with the proposed pathways would occur within the County-maintained right-of-way; therefore, impacts on County List A and/or B plant species are not anticipated to occur as a result of construction of the pathways.

Because potentially suitable habitat for County List A and B plant species occurs along the proposed new offsite trail segment (4 feet wide by approximately 2,300 feet long) near the Ramona Airport and the potential new offsite trail segment on the RMWD, the construction and maintenance of these segments have the potential to result in impacts on County List A and/or B plant species (**Impact Bio-3e**).

Construction of the staging area within the NE portion of the Preserve would result in impacts on five individuals of southern tarplant, a County List A species. However, these impacts would not be considered significant because the loss of these individuals represents less than 5% of the population of this species within the Preserve, which would be managed and maintained in perpetuity for the benefit of biological resources, including southern tarplant.

Indirect impacts on County List A and/or B plant species during construction of new trail segments or as a result of trail usage are not anticipated to occur to County List A and B plant species observed within the Preserve. All County List A and B plant species observed within the Preserve occur a minimum of 100 feet from proposed trails or associated facilities/improvements (with the exception of individuals discussed above that would be directly impacted).

3.2.2.2 Wildlife Species

The following County Group 1 and/or state Species of Special Concern were detected within the Preserve: arroyo toad, western spadefoot, orange-throated whiptail, San Diego horned lizard, Coronado skink, two-striped garter snake, red diamond rattlesnake, turkey vulture, Cooper's hawk, red-shouldered hawk, Ferruginous hawk, golden eagle, burrowing owl, vermilion flycatcher, loggerhead shrike, western blue bird, southern California rufous-crowned sparrow, grasshopper sparrow, yellow warbler, tricolored blackbird, Stephens' kangaroo rat, northwestern San Diego pocket mouse, San Diego desert woodrat, Dulzura pocket mouse, Townsend's big-eared bat, western yellow bat, western red bat, pallid bad, big free-tailed bat, pocketed free-tailed bat, and western mastiff bat.

Impacts on federally listed species, including the arroyo toad and Stephens' kangaroo rat, are discussed above (see **Impacts Bio-3b and Bio-3c**).

While the proposed project would result in impacts on occupied/suitable habitat for County Group I species/state Species of Special Concern, impacts would be minimal and would not have a substantial adverse effect on the local long-term survival of these sensitive species. In addition, the project involves implementation of the Preserve RMP and Preserve VMP and the preservation and long-term maintenance and management of approximately 3,490 acres, which would benefit these species and contribute to their long-term survival.

3.2.3 Project Impacts Relevant to Guidelines 3.1.c

The following County List C or D plant species and County Group 2 animal species were detected within the Preserve: western spadefoot, San Diego horned lizard, Coronado skink, orange-throated whiptail, coastal western whiptail, coastal rosy boa, red diamond rattlesnake, great blue heron, barn owl, California horned lark, western blue bird, yellow warbler, northwestern San Diego pocket

mouse, San Diego desert woodrat, Dulzura pocket mouse, southern mule deer, small-footed myotis, long-eared myotis, Yuma myotis, western red bat, Townsend's big-eared bat pallid bat, pocketed free-tailed bat, beg free-tailed bat, western mastiff bat, ashy spike-moss, California adder's tongue, southwestern spiny rush, Palmer's sagewort, graceful tarplant, rush chaparral-star, small-flower bindweed, Engelmann oak, vernal barley, and Ramona spineflower. The project would not impact the regional long-term survival of a County List C or D plant species, or a County Group 2 animal species. The project involves implementation of the Preserve RMP and Preserve VMP and the preservation and long-term maintenance and management of approximately 3,490 acres, which would benefit these species and contribute to their long-term survival.

3.2.4 Project Impacts Relevant to Guidelines 3.1.d

The project may potentially impact arroyo toad aestivation and breeding habitat (**Impact Bio-3f**). Approximately 1.24 acres of suitable arroyo toad aestivation upland habitat (0.38 acre within the proposed trail alignment and 0.86 within the temporary staging area) and 0.008 acre of breeding wetland/riparian habitat (within the footprint of the dry weather crossing) would be directly affected by the project (Table 2-1). If the alternative Santa Maria Creek crossing on the RMWD property is utilized, the project's impact on arroyo toad habitat would be reduced to 0.37 acre of suitable aestivation upland habitat (0.34 acre within the proposed onsite trail alignment and 0.03 acre within the potential offsite section within the RMWD property) (Table 2-2).

3.2.5 Project Impacts Relevant to Guidelines 3.1.e

A pair of golden eagles is known to nest on cliffs located outside of the Preserve and have been observed foraging throughout the Preserve. The known nesting site is located 0.5 mile from the nearest existing trail that is proposed to be part of the formal trail network within the Preserve; the closest proposed new trail construction is located over 4,000 feet from the known eagle nesting location (and is not within sight of the known nesting location). Direct impacts on golden eagle are not anticipated to occur as a result of the proposed project because the known nesting site would be avoided and impacts on foraging habitat would be minimal (6.27 acres of impact on nonnative grassland within the approximately 3,490-acre Preserve, which supports over 1,400 acres of nonnative grasslands). In addition, the project has been designed to minimize and avoid indirect impacts on the golden eagle. The southern trail loop, associated with Old Survey Road 97 in the NW portion, closest to the known nesting location will be closed and passively restored. In addition, as funding is available, implementation measures will be used that will provide additional protections for the golden eagle. These include continued maintenance to control invasive plant species within the Preserve; ongoing monitoring and adaptive management of the Preserve, which could include seasonal closure of trail sections associated with Old Survey Road 97 in the NW portion where foraging eagles have been frequently observed; the completion of annual surveys of known offsite nest locations to determine occupancy during the breeding period (December through June); and monitoring of the numbers and types of trail users and identification of peak trail usage times to determine the need for seasonal closures of trails.

3.2.6 Project Impacts Relevant to Guideline 3.1.f

Raptors such as the red-shouldered hawk, Cooper's hawk, ferruginous hawk, turkey vulture, and golden eagle were observed or are known to forage in the grasslands on the Preserve. While approximately 6.27 acres of foraging habitat (nonnative grassland) would be directly impacted by

the project, the remainder of the nonnative grasslands within the Preserve (over 1,400 acres) would be available for foraging. This represents a loss of less than 1% of the foraging habitat in the Preserve. In addition, as funding is available, implementation measures will be used that will provide additional protections for raptors, including potential seasonal closure of trail sections within the Preserve in areas where high levels of raptor usage have been observed.

3.2.7 Project Impacts Relevant to Guideline 3.1.g

The proposed project would not impact the viability of a core wildlife area. The proposed project has been designed to utilize existing dirt roads/trails for the proposed trail network to the maximum extent feasible. In addition, reuse of existing structures is proposed for associated facilities, such as the ranger station/interpretive center. New trail sections are limited in number and would occur either near the perimeter of the Preserve (e.g., the new trail segment in the NW portion of the Preserve and the proposed pathways along Rangeland Road and Highland Valley Road) or would replace a section of an existing road/trail (e.g., the new trail segment in the NE portion of the Preserve, which is being realigned to avoid public access within sight of rocky outcrops that may provide perching opportunities for raptors as well as an existing eroded section). Project impacts would be limited to a total of 6.628 acres of the approximately 3,490-acre Preserve. In addition, the project involves the implementation of the Preserve RMP and Preserve VMP, which involve long-term maintenance and adaptive management of the Preserve, and include management directives aimed at increasing the Preserve's overall functions and values, including its function as a core area for wildlife.

3.2.8 Project Impacts Relevant to Guideline 3.1.h

The proposed project, which includes implementation of the Preserve RMP and Preserve VMP, would not cause indirect impacts that would harm sensitive habitats over the long-term. These plans involve the long-term maintenance and adaptive management of the entire Preserve and include management directives that would be implemented to protect sensitive resources and enhance habitats for special-status species.

3.2.9 Project Impacts Relevant to Guideline 3.1.i

One burrowing owl was incidentally observed within the vicinity of the proposed new trail section that would connect the eastern and western portions of the Preserve; the survey efforts to date have not included areas outside of the identified Preserve boundaries. The construction and maintenance of this new trail segment has the potential to result in direct and indirect impacts on burrowing owl (**Impact Bio-3g**).

3.2.10 Project Impacts Relevant to Guideline 3.1.j

Coastal cactus wren was not detected within the Preserve during biological surveys performed in 2009, and suitable habitat for this species does not occur within the Preserve. Therefore, impacts on this species are not anticipated.

3.2.11 Project Impacts Relevant to Guideline 3.1.k

Hermes copper was not detected within the Preserve during biological surveys performed in 2009, and suitable habitat for this species does not occur within the Preserve. Therefore, impacts on this species are not anticipated.

3.2.12 Project Impacts Relevant to Guideline 3.1.l

Coastal cactus wren was not detected within the Preserve during biological surveys performed in 2009, and suitable habitat for this species does not occur within the Preserve. Therefore, the project would not impact the nesting success of this species.

The following sensitive bird species were not observed within the Preserve; however, the Preserve provides potentially suitable habitat for these species: coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, and light-footed clapper rail. The project includes the implementation of the Preserve RMP and Preserve VMP, which involve long-term maintenance and adaptive management of the entire Preserve and include management directives that would benefit species known to occur within the Preserve and species that may be detected during ongoing monitoring efforts. Therefore, the project would not impact nesting success of the species listed above.

The project is known to support or has the potential to support tree-nesting raptors (e.g., Cooper's hawk, red-shouldered hawk, ferruginous hawk, etc.), ground-nesting raptors (e.g., northern harrier and burrowing owl), and the golden eagle. The project is not anticipated to result in impacts on the nesting success of golden eagles because the known nesting site is located 0.5 mile from the nearest existing trail that is proposed to be part of the formal trail network within the Preserve and the closest proposed new trail construction is located over 4,000 feet from the known eagle nesting location (and is not within sight of the known nesting location). However, the project could impact the nesting success of tree- and/or ground-nesting raptors if grading, clearing, or other noise generating construction activities would occur during their breeding season, defined as January 15 to July 15 and February 1 to July 31, respectively (**Impact Bio-3h**).

3.3 Cumulative Impact Analysis

Current, future, or reasonably foreseeable projects in the cumulative assessment area that were reviewed in association with the cumulative analysis include: the Ramona Airport Improvement Project, Cumming Ranch, Montecito Ranch, and the Ramona Air Center. Together these projects would result in potential impacts on arroyo toad, burrowing owl, Stephens' kangaroo rat, and nesting birds. While the project's impacts associated with the proposed trail network and associated facilities/improvements would contribute to cumulative impacts on these special-status species, the overall project (which includes preservation and long-term maintenance and management of the approximately 3,490-acre Preserve for the benefit of special-status species) and associated impacts would not be cumulatively considerable.

3.4 Mitigation Measures and Design Considerations

MM-Bio-3a: In order to avoid potential impacts on federally and/or state-listed plant species, the following measures shall be implemented:

- a. Focused surveys for listed plant species shall be conducted within the vicinity of the offsite east–west trail that connects the eastern and western portions of the Preserve and within the proposed new offsite trail segment on the RMWD property that would be required if the alternative Santa Maria Creek Crossing is utilized to identify any listed plant species in the vicinity. The final alignment of the trail in these locations shall avoid impacts on listed plant species.
- b. A biological monitor shall be present during all trail construction and major trail maintenance within the vicinity of areas occupied by listed plant species to ensure avoidance.

MM-Bio-3b: In order to minimize potential impacts on arroyo toad, minimization and avoidance measures shall be implemented during construction of all proposed new trail segments in the NW portion of the Preserve, including the crossing (bridge or dry weather crossing) of Santa Maria Creek and during major trail maintenance in the vicinity of suitable/occupied arroyo toad habitat. Measures to be implemented will be finalized during consultation under the Federal Endangered Species Act, but could include the following:

- a. No construction activities shall take place during the arroyo toad breeding season (March 15 through July 1) within suitable arroyo toad breeding habitat.
- b. Access to the project sites shall be via existing access routes to the greatest extent possible. Project-related vehicle travel will be limited to daylight hours because arroyo toads use roadways primarily during nighttime hours.
- c. Activities that attract small insects (e.g., ants) and toad predators shall be minimized by keeping the project sites as clean as possible. All food-related trash will be placed in sealed bins or regularly removed from the site.
- d. Dust control (i.e., water truck spraying) shall be performed in a manner that does not attract toads into the action area and by performing when the toad exclusion fence is up and minimizing overspray.
- e. Arroyo toad exclusion fencing shall be installed around the perimeter of all work areas within potential arroyo toad upland habitat prior to construction. The purpose of the fence is to exclude arroyo toads from the work sites. Such fencing will consist of fabric or plastic at least 2 feet high, staked firmly to the ground with the lower 1 foot of material stretching outward along the ground and secured with a continuous line of gravel bags. No digging or vegetation removal will be associated with the installation of this fence and all fencing materials (i.e., mesh, stakes, etc.) will be removed following construction within the work area. Ingress and egress of equipment and personnel will use a single access point to the site. This access point will be as narrow as possible and will be closed off by exclusionary fencing when personnel are not on the project site.
- f. Within the week prior to commencement of construction activities, but after exclusionary fencing has been installed, at least two surveys for arroyo toads shall be conducted on consecutive nights within the fenced areas by a USFWS-approved biologist. Surveys will be

conducted during appropriate climatic conditions and during the appropriate time of day or night to maximize the likelihood of encountering toads. If climatic conditions are not appropriate for arroyo toad movement during the surveys, a qualified biologist may attempt to illicit a response from the arroyo toads (during the night [i.e., at least 1 hour after sunset] with temperatures above 50°F) by spraying the project area with water to simulate a rain event. If arroyo toads are found within the project area they will be captured and translocated, by the biologist, to the closest area of suitable habitat along Santa Maria Creek. The biologist will coordinate with the County and the USFWS to determine a specific translocation site prior to moving any arroyo toads. The date, time of capture, specific location of capture (using GPS), approximate size, age, and health of the individual will be recorded and provided to the USFWS, within 2 weeks of the translocation, in both hard copy and digital format.

- g. The project biologist shall be present at the end of the day to ensure that the excavations are properly covered to prevent toads from entering any open pits. The project biologist will be on call and available as needed at other times in the event that a toad is encountered during the activities. The project biologist will be present on site full-time, for 2–3 days, following any measurable rainfall.
- h. Upon notification of a toad sighting, the project biologist shall contact the County. The County will contact the USFWS directly. Any type of “take” of toads, which includes digging up, handling (i.e., relocating the toad), injury, or death will be reported immediately to the County.
- i. If determined to be necessary, trail maintenance activities shall avoid impacts on arroyo toad habitat to the maximum extent feasible and a biological monitor shall be present during major trail maintenance within suitable/occupied arroyo toad habitat to ensure potential impacts are avoided or minimized to the extent feasible.

MM-Bio-3c: In order to avoid potential impacts on Stephens’ kangaroo rats, the following measures shall be implemented:

- a. A biological monitor shall be present during all trail construction and major trail maintenance within suitable/occupied SKR habitat to ensure avoidance of occupied burrows.
- b. Prior to conducting trail maintenance activities in areas known to support SKR, a qualified biologist shall mark all occupied or potentially occupied SKR burrows. Marked burrows shall be avoided by a distance of no less than 5 feet when using mechanical equipment.

MM-Bio-3d: In order to avoid potential impacts on federally and/or state-listed wildlife species, the following measures shall be implemented:

- a. A habitat assessment shall be conducted within the vicinity of the offsite trail segment on the RMWD property that would be required if the alternative Santa Maria Creek crossing is utilized and locations of major trail maintenance to identify the potential for the area to support federally and/or state-listed wildlife species. The final alignment of the trails in these locations shall avoid direct impacts on listed wildlife species. If the area is determined to support suitable habitat for listed species, focused surveys may be required for those species to identify presence/absence and to ensure avoidance.

- b. A biological monitor shall be present during all trail construction and major trail maintenance within the vicinity of areas occupied by listed wildlife species to ensure avoidance.

MM-Bio-3e: In order to avoid potential impacts on County List A and/or B plant species, the following measures shall be implemented:

- a. Focused surveys for County List A and B plant species shall be conducted within the vicinity of the offsite east–west trail that connects the eastern and western portions of the Preserve, along the offsite trail segment that would be required if the alternative Santa Maria Creek crossing is utilized, and in the vicinity of locations of major trail maintenance to identify any County List A and B plant species in the vicinity. The final alignment of the trails in these locations shall avoid impacts on County List A and B plant species to the extent feasible.
- b. A biological monitor shall be present during all trail construction and major trail maintenance within the vicinity of areas occupied by County List A and B plant species to ensure impacts are avoided or minimized to the extent feasible.

MM-Bio-3f: Same as MM-Bio-3b.

MM-Bio-3g: In order to avoid potential impacts on burrowing owls, a preconstruction survey shall be conducted within the vicinity of the offsite east–west trail that connects the eastern and western portions of the Preserve and within the offsite trail segment that would be required if the alternative Santa Maria Creek crossing is utilized to identify any active burrows in the vicinity. Preconstruction surveys must be completed no more than 30 days before initial brushing, clearing, grubbing, or grading of this new trail section. The final trail alignment in these locations shall avoid impacts on occupied burrows, and, if occupied burrows are found within 300-feet of the proposed trail, trail construction shall occur outside of the breeding season for this species (i.e., September 1 to January 31).

MM-Bio-3h: In order to avoid a violation of the MBTA, vegetation clearing or grading shall be restricted during the breeding season for migratory birds (approximately January 15 through September 15 annually) unless preconstruction surveys by a qualified biologist determine no nesting birds protected by the MBTA are located within grading/vegetation clearing areas. If active nests are identified within the impact area on site, vegetation clearing activities shall not occur within 300 feet of migrant songbird nests, 500 feet of tree nesting raptor nests, and 800 feet of ground-nesting raptor nests until either the breeding season has ended or the nest is no longer active.

3.5 Conclusions

The proposed project has the potential to result in significant impacts on special-status species known to occur (including the arroyo toad, burrowing owl, and Stephens' kangaroo rat) as well as special-status species with potential to occur within the Preserve (e.g., spreading navarretia, etc.). The proposed project has been designed to avoid and/or minimize impacts on special-status species to the extent feasible, including through implementation of the Preserve RMP and Preserve VMP and associated management directives with the goal of benefitting sensitive biological resources.

Implementation of such directives, along with the proposed mitigation measures outlined above, would reduce impacts on special-status species to below a level of significance.

Chapter 4

Riparian Habitat or Sensitive Natural Community

4.1 Guidelines for the Determination of Significance

A project would have a potentially significant effect on biological resources if:

the project would have a substantial adverse effect on riparian habitat or another sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Specifically, any of the following conditions would be considered significant:

- a. Project-related grading, clearing, construction or other activities would temporarily or permanently remove sensitive native or naturalized habitat on or off the project site.
- b. Any of the following will occur to or within jurisdictional wetlands and/or riparian habitats as defined by the USACE, CDFG, and County of San Diego: removal of vegetation; grading; obstruction or diversion of water flow; adverse change in velocity, siltation, volume of flow, or runoff rate; placement of fill; placement of structures; construction of a road crossing; placement of culverts or other underground piping; any disturbance of the substratum; and/or any activity that may cause an adverse change in native species composition, diversity and abundance.
- c. The project would draw down the groundwater table to the detriment of groundwater-dependent habitat, typically a drop of 3 feet or more from historical low groundwater levels.
- d. The project would cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive habitats over the long term. The following issues should be addressed in determining the significance of indirect impacts: increasing human access; increasing predation or competition from domestic animals, pests, or exotic species; altering natural drainage; and increasing noise and/or nighttime lighting to a level above ambient that has been shown by the best available science to adversely affect the functioning of sensitive habitats.
- e. The project does not include a wetland buffer adequate to protect the functions and values of existing wetlands. If the project is subject to the Resource Protection Ordinance, buffers of a minimum of 50 feet and a maximum of 200 feet to protect wetlands are required based on the best available science available to the County at the time of adoption of the ordinance.

Each of these significance criteria is discussed below with respect to the proposed project.

4.2 Analysis of Project Effects

4.2.1 Project Impacts Relevant to Guideline 4.1.a

Existing roads and trails that would become part of the proposed multi-use trail network would not result in impacts on riparian habitat or sensitive natural communities; impacts would be limited to

existing disturbed/developed areas. In addition, the northern 0.07-mile segment of the proposed pathway along the west side of Rangeland Road would not result in impacts on riparian habitat or sensitive natural communities; impacts would be limited to existing disturbed/developed areas. However, portions of the southern approximately 0.50-mile segment of the proposed pathway along the west side of Rangeland Road and of the pathway along Highland Valley Road, if constructed, have the potential to result in impacts on sensitive natural communities and/or riparian habitat (**Impact Bio-4a**). The southern portion of the pathway along Rangeland Road would cross the Santa Maria Creek and its associated riparian habitat. In addition, a drainage channel runs along the north side of Highland Valley Road, and an associated patch of southern willow scrub occurs north of Highland Valley Road adjacent to the Oak Country II staging area.

Construction of the new trail segments in the NW and NE portions of the Preserve, dry weather crossing of Santa Maria Creek in the NW portion, temporary construction staging area in the NW portion; new offsite trail to connect the NE portion of the Preserve to Rangeland Road, staging area in the NE portion, and other project infrastructure would directly result in impacts on the following sensitive native and naturalized habitats: nonnative grassland (6.27 acres), open coast live oak woodland (0.08 acre), disturbed wetland (0.006 acre), non-vegetated channel (0.002 acre), southern mixed chaparral (0.11 acre), coastal sage-chaparral scrub (0.03 acre), and disturbed coastal sage scrub (0.13 acre) (see Table 2-1 above). If the alternative crossing of Santa Maria Creek on the RMWD property is utilized, impacts on native or naturalized vegetation communities would be reduced to a total of 5.76 acres: 5.43 acres of nonnative grassland, 0.07 acre of open coast live oak woodland, 0.10 acre of southern mixed chaparral, 0.03 acre of coastal sage-chaparral scrub, and 0.13 acre of disturbed coastal sage scrub (see Table 2-2 above). In addition, although not anticipated because trails have been designed such that they are not subject to erosion, the potential future re-routing of trail sections to avoid areas subject to erosion could result in impacts on sensitive natural communities (**Impact Bio-4b**).

4.2.2 Project Impacts Relevant to Guideline 4.1.b

The proposed dry weather crossing of Santa Maria Creek in the NW portion of the Preserve would directly impact approximately 0.008 acre of jurisdictional wetland waters of the U.S. and state and CDFG streambed (disturbed wetland and non-vegetated channel). Construction and maintenance of the proposed trail along the section of Old Survey Road that crosses Drainage 3 would result in impacts on 18 square feet (0.0004 acre) regulated as a non-wetland WoUS and 36 square feet (0.0008 acre) of CDFG streambed. Such impacts would be considered a significant impact. Additional discussion of federal waters, including those applicable to state jurisdiction within those waters, is provided in Chapter 5.

4.2.3 Project Impacts Relevant to Guidelines 4.1.c

The project would obtain its water supply from the RMWD, which obtains water from surface reservoirs. The project would not use any groundwater for any purpose, including irrigation, domestic, or commercial demands and is not expected to draw down the groundwater table to the detriment of groundwater-dependent habitat.

4.2.4 Project Impacts Relevant to Guideline 4.1.d

The proposed project, which includes implementation of the Preserve RMP and Preserve VMP, would not cause indirect impacts that would harm sensitive habitats over the long-term. These plans involve the long-term maintenance and adaptive management of the entire Preserve and include management directives that would be implemented to protect sensitive resources and enhance habitats for special-status species.

4.2.5 Project Impacts Relevant to Guidelines 4.1.e

The proposed project has been designed to avoid and minimize impacts on jurisdictional wetlands/waters and associated buffers. Existing roads/trails proposed as part of the Preserve's multi-use trail network currently cross several identified drainage features in the NW portion of the Preserve; some along Old Survey Road and some near the connection of the Oak Country II trail to the east-west trail along the southern boundary of the NW portion of the Preserve. The small jurisdictional impacts associated with the existing crossings along the connecting trail from Oak Country II to the NW portion of the Preserve were permitted and mitigated for in association with the Oak Country II project. Improvements outside of the existing Old Survey Road in the location of the existing three drainage crossings that were delineated (see Section 1.4.8) are not proposed, and because culverts exist where Drainages 1 and 2 cross Old Survey Road, impacts on jurisdictional resources would not occur at these locations. No culvert exists where Drainage 3 crosses an overgrown section of Old Survey Road and this area was determined to be regulated as a non-wetland WoUS and CDFG Streambed. While construction and maintenance of a trail along Old Survey Road would either impact or encroach up to the limits of jurisdictional resources, trails are an allowable use within wetland buffers, and there would be no overall decrease in the functions and values of these three identified jurisdictional resources.

The proposed new trail connecting the SW and NW portions of the Preserve and the dry weather crossing would result in impacts on Santa Maria Creek. Construction of a bridge at this crossing of Santa Maria Creek would avoid direct impacts on jurisdictional wetlands because bridge footings would be located just outside of the mapped limits of jurisdictional resources. While these limited project components would either impact or encroach up to the limits of jurisdictional resources, trails are an allowable use within wetland buffers and there would be no overall decrease in the functions and values of the existing wetlands. In addition, implementation of the Preserve RMP and Preserve VMP would result in an increase in the overall functions and values of the existing wetlands within the Preserve.

The temporary staging area associated with the potential bridge construction is located a minimum of 100 feet from Santa Maria Creek.

Grazing currently occurs within the Preserve. The entire Santa Maria Creek and a variable buffer within the SW portion of the Preserve (south of the RMWD property) has been fenced to exclude cattle grazing and to allow for passive restoration of riparian habitat in accordance with State Water Resources Control Board grant specifications. Santa Maria Creek in the NW portion of the Preserve is not fenced. Much of the topography, including rocky outcrops, does not make fencing in this area feasible. Additionally, only ten bulls graze the NW portion of the Preserve between late June and November of each year. A water source is located close to their enclosure and they do not utilize the creek for water. This low level of continued grazing as part of the proposed project, when considered along with implementation of the management directives identified in the RMP and VMP

that would both protect and increase the functions and values of the existing wetlands within the Preserve, would not result in significant impacts on wetlands or wetland buffers. The proposed project provides for adequate protection of the functions and values of existing wetlands within the Preserve, and impacts would be less than significant.

4.3 Cumulative Impact Analysis

The cumulative impact assessment areas for riparian habitat and sensitive natural communities are outlined below in Table 4-1.

Table 4-1. Cumulative Impact Assessment Areas for Riparian Habitats and Sensitive Natural Communities

Biological Resource	Cumulative Assessment Area
Wetlands/Riparian/Oak woodland	Ramona Hydrologic Subarea as defined by RWQCB Basin plan
Grasslands	Ramona Grasslands (including grasslands outside the Preserve)
Southern Mixed Chaparral	Central Foothills Humid Temperate Ecological Region (as defined by County), except stopping at San Diego River to the south and San Dieguito River to the north

Current, future, or reasonably foreseeable projects in the cumulative assessment area that were reviewed in association with the cumulative analysis include: the Ramona Airport Improvement Project, Cumming Ranch, Montecito Ranch, and the Ramona Air Center. Together these projects would result in impacts on southern mixed chaparral, grasslands, wetland/riparian vegetation, and oak woodlands. While the project's impacts associated with the proposed trail network and associated facilities/improvements would contribute to cumulative impacts on these riparian habitats and sensitive natural communities, the overall project (which includes preservation and long-term maintenance and management of the approximately 3,490-acre Preserve) and associated impacts would not be cumulatively considerable.

4.4 Mitigation Measures and Design Considerations

Significant impacts on sensitive natural communities resulting from the proposed project shall be mitigated through the offsite preservation of habitat or the purchase of mitigation credits within an approved mitigation bank.

The proposed project has been designed to utilize existing dirt roads/trails for the proposed trail network to the maximum extent feasible. In addition, reuse of existing structures is proposed for associated facilities, such as the ranger station/interpretive center.

MM-Bio-4a: The final alignment and design of the southern section of the pathway along Rangeland Road and the pathway along Highland Valley Road will avoid impacts on sensitive natural communities/riparian habitat to the maximum extent feasible. Where unavoidable impacts are proposed, they will be quantified and mitigated in accordance with MM-Bio-4b.

MM-Bio-4b: Significant impacts on sensitive natural communities resulting from unavoidable impacts will be offset by the offsite preservation of habitat, the purchase of mitigation credits within an approved mitigation bank, or in accordance with County Board Policy I-138 at established mitigation ratios (e.g., in accordance with ratios outlined in the County's adopted MSCP or, when adopted, the North County MSCP).

4.5 Conclusions

Offsite preservation of habitat or purchase of mitigation credits within an approved mitigation bank at established mitigation ratios, along with implementation of specific management directives in the Preserve RMP and Preserve VMP, will reduce substantial adverse effects on sensitive natural communities identified in local or regional plans, policies, regulations, or by the CDFG or USFWS resulting from the construction of new trail segments, supporting infrastructure/facilities, grading/clearing, or other project activities to a level below significant.

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5.1 Guidelines for the Determination of Significance

A project would have a potentially significant effect on biological resources if:

the project would have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means.

The analysis below refers to Section 4.2 and presents a comparable analysis for federally protected wetlands and other waters.

5.2 Analysis of Project Effects

5.2.1 Project Impacts Relevant to Guideline 4.1.b

As summarized in Table 2-3, construction of the dry weather crossing across Santa Maria Creek in the NW portion of the Preserve would directly impact a total of 0.008 acre of jurisdictional wetland WoUS, and the construction and maintenance of the proposed trail along the section of Old Survey Road that crosses Drainage 3 would result in impacts on 18 square feet regulated as a non-wetland WoUS and 0.0008 acre of CDFG Streambed (**Impact Bio-5a**); construction of other related improvements (picnic areas, staging area, etc.) and implementation of the RMP and VMP are not expected to result in direct impacts on jurisdictional waters.

Dredge or fill of regulated waters would be considered a significant impact. If a bridge is not installed at the proposed crossing of Santa Maria Creek (or if the alternative crossing of Santa Maria Creek on the RMWD property is not utilized), significant impacts on federal waters, including wetlands, would be mitigated to below a level of significance through offsite restoration and/or enhancement; details of the mitigation for impacts on jurisdictional resources (including a conceptual mitigation plan) would be finalized as part of the permitting process with USACE, CDFG, and RWQCB. Post-project conditions at the preserve would allow for the continued flow of water through the project impact areas.

As discussed in Section 4.2.1, portions of the southern approximately 0.50-mile segment of the proposed pathway along the west side of Rangeland Road and of the pathway along Highland Valley Road, if constructed, have the potential to result in impacts on jurisdictional waters (**Impact Bio-5b**). The southern portion of the pathway along Rangeland Road would cross the Santa Maria Creek. In addition, several culverts exist along the west side of Rangeland Road, which could be impacted as a result of construction of the southern segment of the pathway along Rangeland Road. Furthermore, a drainage channel runs along the north side of Highland Valley Road and several culverts occur along the north side of Highland Valley Road. These features could be impacted by construction of the pathway along Highland Valley Road.

5.2.2 Project Impacts Relevant to Guideline 4.1.c

Project-related potential to drawdown the groundwater table is discussed in Section 4.2.3.

5.2.3 Project Impacts Relevant to Guideline 4.1.e

A discussion of the project's inclusion of an adequate wetland buffer is discussed in Section 4.2.5.

5.3 Cumulative Impact Analysis

Implementation of the proposed project and recent and foreseeable projects in the vicinity would not result in significant cumulative impacts on jurisdictional wetlands and waters. Federal, state, and county policies require that projects have no net loss of jurisdictional wetlands and waters. The proposed project would mitigate its impacts on disturbed wetland and non-vegetated channel (determined to be jurisdictional wetlands) and to non-wetland waters through offsite restoration and/or enhancement; details of the mitigation for impacts on jurisdictional resources (including a conceptual mitigation plan) would be finalized as part of the permitting process with USACE, CDFG, and RWQCB. Other development projects in the vicinity would be required to comply with these policies for wetland mitigation; therefore, there would be less-than-significant cumulative impacts on federal wetlands.

5.4 Mitigation Measures and Design Considerations

MM-Bio-5a: Prior to impacting regulated waters, including wetlands, the following permits/approval shall be required to be obtained: (1) USACE, CWA, Section 404 permit for placement of dredged or fill material within WoUS; (2) RWQCB, CWA, Section 401 state water quality certification/waiver for an action that may result in degradation of waters of the State; and (3) CDFG Streambed Alteration Agreement. If a span bridge is constructed for the proposed crossing of Santa Maria Creek (or if the alternative crossing of Santa Maria Creek on the RMWD is utilized), impacts would be avoided and no mitigation would be required. While the construction of a dry weather crossing of Santa Maria Creek would result in impacts, wetland creation is not proposed. The impact area, and immediately adjacent areas, is currently unvegetated and, after project implementation, would continue to convey water. Mitigation for impacts on jurisdictional wetlands (disturbed wetland and non-vegetated channel) and non-wetland waters is proposed to consist of offsite restoration and/or enhancement; the details of the mitigation for impacts on jurisdictional resources (including a conceptual mitigation plan) will be finalized as part of the permitting process with the USACE, CDFG, and RWQCB.

MM-Bio-5b: The final alignment and design of the southern section of the pathway along Rangeland Road and the pathway along Highland Valley Road will avoid impacts on jurisdictional wetlands and waters. Where unavoidable impacts are proposed, a formal wetland delineation shall be conducted of the impact area, the impacts will be quantified, and impacts will be mitigated in accordance with MM-Bio-5a.

5.5 Conclusions

Potential project impacts on jurisdictional wetlands and waterways, as previously discussed in Section 5.2, would be considered significant. Construction of a bridge over Santa Maria Creek could result in the avoidance of all impacts on jurisdictional wetlands; however, impacts on non-wetland waters would occur as a result of the project at Drainage 3. As discussed previously in Section 5.4, mitigation is proposed to consist of offsite restoration and/or enhancement. In addition, the project includes the preservation of the approximately 3,490-acre Preserve, which includes an approximately 4-mile-long section of Santa Maria Creek and its associated wetland/riparian vegetation. The preservation and management of the Preserve would enhance the functions and values of the Santa Maria Creek and its tributaries within the Preserve.

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6.1 Guidelines for the Determination of Significance

A project would have a potentially significant effect on biological resources if:

the project would interfere substantially with the movement of a native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Any of the following conditions would be considered significant:

- a. The project would impede wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their reproduction.
- b. The project would substantially interfere with connectivity between blocks of habitat, or would potentially block or substantially interfere with a local or regional wildlife corridor or linkage.
- c. The project would create artificial wildlife corridors that do not follow natural movement patterns.
- d. The project would increase noise and/or nighttime lighting in a wildlife corridor or linkage to levels likely to affect the behavior of the animals identified in a site-specific analysis of wildlife movement.
- e. The project does not maintain an adequate width for an existing wildlife corridor or linkage and/or would further constrain an already narrow corridor through activities such as (but not limited to) reduction of corridor width, removal of available vegetative cover, placement of incompatible uses adjacent to it, and placement of barriers in the movement path.
- f. The project does not maintain adequate visual continuity (i.e., long lines-of-sight) within wildlife corridors or linkage.

Each of these significance criteria is discussed in Section 6.2 below with respect to the project's anticipated effects. Those criteria for which impacts are not anticipated are discussed briefly at the end of the section.

6.2 Analysis of Project Effects

The proposed project would not result in significant impacts under any of the following guidelines as discussed below.

6.2.1 Project Impacts Relevant to Guideline 6.1.a

As discussed in Section 4.2, minimal impacts on sensitive vegetation communities (6,628 acres) would occur; thus, the majority of the proposed project area (3,490 acres) would be available to wildlife species for foraging or breeding. Additionally, the trails and other infrastructure

improvements that would be constructed would not impede movement through the Preserve for wildlife to access resources for foraging and breeding.

6.2.2 Project Impacts Relevant to Guideline 6.1.b

The project involves the preservation and long-term management of the approximately 3,490-acre Preserve, which also serves to connect large blocks of undeveloped lands adjacent to the Preserve. The reuse of existing structures on the Preserve and construction of other infrastructure improvements (e.g., picnic tables, benches, overlooks, etc.) would not block or substantially interfere with identified corridors or linkages.

6.2.3 Project Impacts Relevant to Guideline 6.1.c

The project has been designed to primarily utilize existing roads and trails for the proposed multi-use trail network and includes the reuse of existing structures for the ranger station/interpretive center. New trail sections are limited in number and would occur either near the perimeter of the Preserve (e.g., the new trail segment in the NW portion of the Preserve and the proposed pathways along Rangeland Road and Highland Valley Road) or would replace a section of an existing road/trail (e.g., the new trail segment in the NE portion of the Preserve, which is being realigned to avoid rock outcrops and an existing eroded section). Therefore, the project would not create artificial wildlife corridors.

6.2.4 Project Impacts Relevant to Guideline 6.1.d

Construction of the project (including new trail segments and the dry weather crossing/bridge in the NW portion of the Preserve) and ongoing trail maintenance would involve noise-generating equipment. However, increases in noise levels would be temporary and would not be such that they would likely affect the behavior of animals, including wildlife movement through corridors or linkages. Proposed lighting is limited to nighttime security motion sensor lighting at the proposed ranger station/interpretive center and maintenance shed in the NE portion of the Preserve.

6.2.5 Project Impacts Relevant to Guideline 6.1.e

The project does not propose construction of any structures or development that would impede or restrict wildlife movement through the site. The corridors and topography on site would remain relatively unchanged as a result of the proposed project.

6.2.6 Project Impacts Relevant to Guideline 6.1.f

The project does not propose any structures or development that would interfere with long lines-of-sight.

6.3 Cumulative Impact Analysis

As discussed in Section 6.2, the proposed project is not expected to impact wildlife dispersal corridors or wildlife movement; thus, there would be no cumulative contributions to wildlife dispersal within the region.

6.4 Mitigation Measures and Design Considerations

The proposed project is not anticipated to result in any potential impacts on wildlife movement or nursery sites; therefore, no mitigation is required.

6.5 Conclusions

The project has been designed to preclude significant impacts on wildlife movement and corridors. Preservation of the approximately 3,490-acre Preserve, of which only 6.628 acres would be impacted by new trails and associated facilities/improvements, would reduce the potential for the project to interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites to a level less than significant.

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7.1 Guidelines for the Determination of Significance

A project would have a potentially significant effect on biological resources if:

the project would conflict with one or more local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, and/or would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

Any of the following conditions would be considered significant.

- a. For lands outside of the MSCP, the project would impact coastal sage scrub (CSS) vegetation in excess of the County's 5% habitat loss threshold as defined by the Southern California Coastal Sage Scrub Natural Communities Conservation Planning Process (NCCP) Guidelines.
- b. The project would preclude or prevent the preparation of the subregional Natural Communities Conservation Planning Process (NCCP).
- c. The project will impact any amount of wetlands or sensitive habitat lands as outlined in the Resource Protection Ordinance (RPO).
- d. The project would not minimize and/or mitigate coastal sage scrub habitat loss in accordance with Section 4.3 of the Natural Communities Conservation Planning Process (NCCP) Guidelines.
- e. The project does not conform to the goals and requirements as outlined in any applicable Habitat Conservation Plan (HCP), Habitat Management Plan (HMP), Special Area Management Plan (SAMP), Watershed Plan, or similar regional planning effort.
- f. For lands within the Multiple Species Conservation Program (MSCP), the project would not minimize impacts on Biological Resource Core Areas (BRCAs), as defined in the Biological Mitigation Ordinance (BMO).
- g. The project would preclude connectivity between areas of high habitat values, as defined by the Southern California Coastal Sage Scrub Natural Communities Conservation Planning Process (NCCP) Guidelines.
- h. The project does not maintain existing movement corridors and/or habitat linkages as defined by the Biological Mitigation Ordinance (BMO).
- i. The project does not avoid impacts on MSCP narrow endemic species and would impact core populations of narrow endemics.
- j. The project would reduce the likelihood of survival and recovery of listed species in the wild.
- k. The project would result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs (Migratory Bird Treaty Act).
- l. The project would result in the take of eagles, eagle eggs or any part of an eagle (Bald and Golden Eagle Protection Act).

Each of these significance criteria is discussed below with respect to the proposed project.

7.2 Analysis of Project Effects

The proposed project would not result in significant impacts under the following guidelines.

7.2.1 Project Impacts Relevant to Guideline 7.1.a

The new trail section in the NE portion of the Preserve would result in impacts on 0.03 acre of coastal sage-chaparral scrub and 0.13 acre of disturbed coastal sage scrub. These impacts would not exceed the County's 5% habitat loss threshold as defined by the Southern California Coastal Sage Scrub NCCP.

7.2.2 Project Impacts Relevant to Guideline 7.1.b

The majority of the proposed project occurs within the Draft North County MSCP PAMA; the northwestern-most portion of the Preserve occurs within the adopted South County MSCP. The project, which includes implementation of the Preserve RMP and Preserve VMP, has been developed in accordance with standard conservation planning principles. Such principles include preservation of large, contiguous patches of open space; maintaining broad wildlife corridors; and preserving high value habitat types. As such, the project would not preclude or prevent the preparation of a subregional NCCP, including the North County MSCP.

7.2.3 Project Impacts Relevant to Guideline 7.1.c

The project is not subject to the RPO, pursuant to Section 86.603, because it does not involve any of the discretionary actions to which the ordinance applied (e.g., Tentative Parcel Maps, Tentative Maps, Major Use Permits, etc.).

7.2.4 Project Impacts Relevant to Guideline 7.1.d

The new trail section in the NE portion of the Preserve would result in impacts on 0.03 acre of the 201.34 acres of coastal sage-chaparral scrub located within the Preserve and 0.13 acre of the 47.97 acres of disturbed coastal sage scrub located within the Preserve. Impacts on these vegetation communities have been minimized to the maximum extent practicable. In addition, per MM-Bio-4, significant impacts on sensitive natural communities (including coastal sage-chaparral scrub and disturbed coastal sage scrub) will be offset by the offsite preservation of habitat or the purchase of mitigation credits within an approved mitigation bank at established mitigation ratios. Therefore, the project would minimize and mitigate coastal sage scrub loss in accordance with Section 4.3 of the NCCP Guidelines. If the project is implemented subsequent to approval of the Draft North County MSCP, impacts on coastal sage-chaparral scrub and disturbed coastal sage scrub would be authorized and mitigated in accordance with that plan.

7.2.5 Project Impacts Relevant to Guideline 7.1.e

The majority of the proposed project site is located within the boundaries of the North County MSCP, which is not yet approved; the northwestern-most portion of the Preserve is located within the approved South County MSCP. The project, which includes the Preserve RMP and Preserve VMP,

has been designed to be consistent with the goals and requirements of the draft North County MSCP as well as the adopted South County MSCP.

7.2.6 Project Impacts Relevant to Guideline 7.1.f

No significant impacts on Biological Resource Core Areas would occur as a result of project implementation as discussed in Sections 3.2 and 6.2.

7.2.7 Project Impacts Relevant to Guideline 7.1.g

The project area includes the entire Preserve and does connect lands of high value habitat, as defined by the Southern California Coastal Sage Scrub NCCP Guidelines. However, implementation of the project would not preclude connectivity of the various portions of the Preserve (NE, NW, SE, and SW) or to adjacent open space lands.

7.2.8 Project Impacts Relevant to Guideline 7.1.h

The project area includes the entire Preserve. The proposed project includes implementation of the Preserve RMP and VMP, which would provide for the long-term management for the benefit of sensitive biological resources, including through the maintenance and enhancement of wildlife movement corridors and linkages.

7.2.9 Project Impacts Relevant to Guideline 7.1.j

Although individual project components (new trails, supporting infrastructure, etc.) would result in impacts on habitats occupied by or with potential to support listed species, the overall project (which includes implementation of the Preserve RMP and VMP) would ensure, through monitoring and adaptive maintenance, that the likelihood of survival and recovery of listed species is not reduced.

7.2.10 Project Impacts Relevant to Guideline 7.1.i

The project would not result in the take of eagles, eagle eggs, or any part of an eagle. Eagles are known to nest adjacent to the NW portion of the Preserve, but are not known to nest within the Preserve. Based on recommendations for the project received from the USFWS, the proposed project has been designed to maintain an approximately 0.5-mile buffer from the nearest existing trail that is proposed to be part of the formal trail network within the Preserve to the known offsite nesting location; the closest proposed new trail construction is located over 4,000 feet from the known eagle nesting locations (and is not within sight of the known nesting location). In addition, the project has been designed to minimize and avoid indirect impacts on the golden eagle. The southern trail loop, associated with Old Survey Road 97, in the NW portion, closest to the known nesting location would be closed and passively restored. In addition, as funding is available, implementation measures would be used that will provide additional protections for the golden eagle. These include conducting annual surveys of known offsite nest locations to determine occupancy during the breeding period (December through June) and monitoring the numbers and types of trail users and identifying peak trail usage times to determine whether seasonal closures are necessary.

The proposed project may potentially result in significant impacts under the following guidelines.

7.2.11 Project Impacts Relevant to Guideline 7.1.i

One MSCP narrow endemic plant species, San Diego thornmint, was observed within the NE portion of the Preserve. In addition, approximately 30 individuals of this species occur within the SE portion of the Preserve. Direct impacts on this species are being avoided and indirect impacts are not expected because all individuals are located more than 500 feet away from any proposed trails or associated facilities/improvements.

The following three Draft North County MSCP narrow endemic plant species were observed within the Preserve: Coulter's saltbush, Parish brittlescale, and southern tarplant. Coulter's saltbush and Parish brittlescale are located within the SE portion of the Preserve and more than 1,000 feet away from any proposed trails or associated facilities/improvements. Therefore, direct and indirect impacts on these species are not anticipated.

Construction of the staging area within the NE portion of the Preserve would result in impacts on five individuals of southern tarplant. However, these impacts would not be considered significant because the loss of these individuals represents less than 5% of the population of this species within the Preserve, which would be managed and maintained in perpetuity for the benefit of biological resources, including southern tarplant.

The following three MSCP narrow endemic wildlife species were observed on the Preserve: burrowing owl, arroyo toad, and golden eagle. One burrowing owl was incidentally observed within the vicinity of the proposed new trail section that would connect the eastern and western portions of the Preserve; the survey efforts to date have not included areas outside of the identified Preserve boundaries. The construction of this new trail segment and the potential new offsite segment required if the alternative crossing of Santa Maria Creek is utilized have the potential to result in direct and indirect impacts on burrowing owl (**Impact Bio-3g**).

Construction of the dry weather crossing at Santa Maria Creek in the NW portion of the Preserve, the temporary construction staging area associated with construction of a bridge over the Santa Maria Creek, and the potential offsite trail segment required if the alternative crossing of Santa Maria Creek is utilized have the potential to result in direct and indirect impacts on the arroyo toad because these areas provide potentially suitable habitat for this species, which was observed upstream of the proposed crossing (**Impact Bio-3b**).

A pair of golden eagles is known to nest on cliffs located outside of the Preserve and have been observed foraging at the Preserve. The known nesting site is located 0.5 mile from the nearest existing trail that is proposed to be part of the formal trail network within the Preserve; the closest proposed new trail is located over 4,000 feet from the known eagle nesting location (and is not within sight of the known nesting location). Direct impacts on golden eagles are not anticipated to occur as a result of the proposed project because the known nesting site will be avoided and because impacts on foraging habitat are minimal (6.27 acres of impact on nonnative grassland within the approximately 3,490-acre Preserve, which supports over 1,400 acres of grasslands). In addition, the project has been designed to minimize and avoid indirect impacts on the golden eagle. The southern trail loop, associated with Old Survey Road 97 in the NW portion, closest to the known nesting locations will be closed and passively restored. In addition, as funding is available, implementation measures will be used that will provide additional protections for the golden eagle. These include continued maintenance to control invasive plant species within the Preserve; conducting annual surveys of known offsite nest locations to determine occupancy during the breeding period.

(December through June); and monitoring the numbers and types of trail users and identifying peak trail usage times to determine whether seasonal closures of trails will be necessary.

The following two Draft North County MSCP narrow endemic wildlife species were observed within the Preserve: tricolored blackbird and Stephens' kangaroo rat. The tricolored blackbird was detected along Santa Maria Creek within the SE portion of the Preserve, more than 2,000 feet away from any proposed trails or associated infrastructure. Therefore, direct and indirect impacts are not anticipated. Stephens' kangaroo rats were observed along the Oak Country II trail in the SW portion of the Preserve as well as within the southwestern corner of the NE portion of the Preserve. In addition, most of the grasslands within the Preserve are considered suitable habitat for this species to occur. The construction and maintenance of trails in the vicinity of these areas has the potential to result in direct impacts on Stephens' kangaroo rat (**Impact Bio-3c**).

7.2.12 Project Impacts Relevant to Guideline 7.1.k.

The project could result in the disturbance or destruction of active migratory bird nests and/or eggs protected under the MBTA (**Impact Bio-7**). The project may disturb or destroy birds or bird nests protected under the MBTA if grading or vegetation clearing is conducted during the breeding season for these taxa (approximately January 15–September 15). Such impacts would violate the MBTA and would be considered significant.

7.3 Cumulative Impact Analysis

The project would not contribute to potentially cumulatively significant conflicts with local policies or ordinances protecting biological resources.

7.4 Mitigation Measures and Design Considerations

MM-Bio-3g: In order to avoid potential impacts on burrowing owls, a preconstruction survey shall be conducted within the vicinity of the offsite east–west trail that connects the eastern and western portions of the Preserve and within the offsite trail segment that would be required if the alternative Santa Maria Creek crossing is utilized to identify any active burrows in the vicinity. Preconstruction surveys must be completed no more than 30 days before initial brushing, clearing, grubbing, or grading of this new trail section. The final trail alignment in these locations shall avoid impacts on occupied burrows and, if occupied burrows are found within 300-feet of the proposed trail, trail construction shall occur outside of the breeding season for this species (i.e., September 1 to January 31).

MM-Bio-3b: In order to minimize potential impacts on arroyo toad, minimization and avoidance measures shall be implemented during construction of all proposed new trail segments in the NW portion of the Preserve, including the crossing (bridge or dry weather crossing) of Santa Maria Creek and during major trail maintenance in the vicinity of suitable/occupied arroyo toad habitat. Measures to be implemented will be finalized during consultation under the Federal Endangered Species Act, but could include the following:

- a. No construction activities shall take place during the arroyo toad breeding season (March 15 through July 1) within suitable arroyo toad breeding habitat.

- b. Access to the project sites shall be via existing access routes to the greatest extent possible. Project-related vehicle travel will be limited to daylight hours because arroyo toads use roadways primarily during nighttime hours.
- c. Activities that attract small insects (e.g., ants) and toad predators shall be minimized by keeping the project sites as clean as possible. All food-related trash will be placed in sealed bins or regularly removed from the site.
- d. Dust control (i.e., water truck spraying) shall be performed in a manner that does not attract toads into the action area and by performing when the toad exclusion fence is up and minimizing overspray.
- e. Arroyo toad exclusion fencing shall be installed around the perimeter of all work areas within potential arroyo toad upland habitat prior to construction. The purpose of the fence is to exclude arroyo toads from the work sites. Such fencing will consist of fabric or plastic at least 2 feet high, staked firmly to the ground with the lower 1 foot of material stretching outward along the ground and secured with a continuous line of gravel bags. No digging or vegetation removal will be associated with the installation of this fence and all fencing materials (i.e., mesh, stakes, etc.) will be removed following construction within the work area. Ingress and egress of equipment and personnel will use a single access point to the site. This access point will be as narrow as possible and will be closed off by exclusionary fencing when personnel are not on the project site.
- f. Within the week prior to commencement of construction activities, but after exclusionary fencing has been installed, at least two surveys for arroyo toads shall be conducted on consecutive nights within the fenced areas by a USFWS-approved biologist. Surveys will be conducted during appropriate climatic conditions and during the appropriate time of day or night to maximize the likelihood of encountering toads. If climatic conditions are not appropriate for arroyo toad movement during the surveys, a qualified biologist may attempt to illicit a response from the arroyo toads (during the night [i.e., at least 1 hour after sunset] with temperatures above 50°F), by spraying the project area with water to simulate a rain event. If arroyo toads are found within the project area they will be captured and translocated, by the biologist, to the closest area of suitable habitat along Santa Maria Creek. The biologist will coordinate with the County and the USFWS to determine a specific translocation site prior to moving any arroyo toads. The date, time of capture, specific location of capture (using GPS), approximate size, age, and health of the individual will be recorded and provided to the USFWS, within 2 weeks of the translocation, in both hard copy and digital format.
- g. The project biologist shall be present at the end of each work day to ensure that any excavations are properly covered to prevent toads from entering any open pits. The project biologist will be on call and available as needed at other times in the event that a toad is encountered during construction activities. The project biologist will be present on site full-time, for 2–3 days, following any measurable rainfall.
- h. Upon notification of a toad sighting, the project biologist shall contact the County. The County will contact the USFWS directly. Any type of “take” of toads, which includes digging up, handling (i.e., relocating the toad), injury, or death will be reported immediately to the County.

- i. If determined to be necessary, trail maintenance activities shall avoid impacts on arroyo toad habitat to the maximum extent feasible and a biological monitor shall be present during major trail maintenance within suitable/occupied arroyo toad habitat to ensure potential impacts are avoided or minimized to the extent feasible.

MM-Bio-3c: In order to avoid potential impacts on Stephens' kangaroo rats, the following measures shall be implemented:

- a. A biological monitor shall be present during all trail construction and major trail maintenance within suitable/occupied SKR habitat to ensure avoidance of occupied burrows.
- b. Prior to conducting trail maintenance activities in areas known to support SKR, a qualified biologist shall mark all occupied or potentially occupied SKR burrows. Marked burrows shall be avoided by a distance of no less than 5 feet when using mechanical equipment.

MM-Bio-7: Same as MM-Bio-3h.

7.5 Conclusions

The project design and proposed avoidance/mitigation measures would reduce potential conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or conflict with the provisions of an adopted Conservation Plan, Natural Community Conservation Plan; or other approved local, regional, or state habitat conservation plan to a level below significant.

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Chapter 8

Summary of Project Impacts and Mitigation

A summary of the project's impacts and proposed mitigation measures is provided below. In addition, Tables 8-1 and 8-2 provide the proposed mitigation ratios to reduce impacts on sensitive vegetation communities resulting from the proposed project and the alternative creek crossing, respectively, to below a level of significance, and Table 8-3 summarizes the proposed mitigation measures and lists the guideline(s) that require each measure.

8.1 Project Impacts

Impact Bio-3a: Construction of the proposed new offsite trail segments has the potential to result in impacts on federally and/or state-listed plant species, if determined to occur within the impact area.

Impact Bio-3b: Construction of the new trail segment and dry weather crossing at Santa Maria Creek in the NW portion of the Preserve and the new potential offsite trail segment required if the alternative crossing of Santa Maria Creek on the RMWD property is utilized have the potential to result in direct and indirect impacts on the arroyo toad.

Impact Bio-3c: The construction and maintenance of trails in the vicinity of suitable/occupied habitat for SKR has the potential to result in significant impacts on this species.

Impact Bio-3d: Construction of the proposed new offsite trail segments has the potential to result in impacts on federally and/or state-listed wildlife species, if determined to occur within the impact area.

Impact Bio-3e: Because potentially suitable habitat for County List A and B plant species occurs along the proposed new offsite trail segment (4 feet wide by approximately 2,300 feet long) near the Ramona Airport and the potential new offsite trail segment on the RMWD property, the construction of these segments has the potential to result in impacts on County List A and/or B plant species.

Impact Bio-3f: Approximately 1.24 acres of suitable arroyo toad aestivation upland habitat (0.38 acre within the proposed trail alignment and 0.86 acre within the temporary staging area) and 0.008 acre of breeding wetland/riparian habitat (within the footprint of the dry weather crossing) would be directly affected by the project. If the alternative Santa Maria Creek crossing on the RMWD property is utilized, the project's impact on arroyo toad habitat would be reduced to 0.37 acre of suitable aestivation upland habitat (0.34 acre within the proposed onsite trail alignment and 0.03 acre within the potential offsite section within the RMWD property; Table 2-2).

Impact Bio-3g: The construction of new trail segments in the vicinity of suitable/occupied habitat for the burrowing owl has the potential to result in direct and indirect impacts on this species.

Impact Bio-3h: The project could impact the nesting success of tree- and/or ground-nesting raptors if grading, clearing, or other noise-generating construction activities would occur during their breeding season, defined as January 15 to July 15 and February 1 to July 31, respectively.

Impact Bio-4a: If constructed, the southern approximately 0.05-mile southern segment of the pathway along Rangeland Road and the pathway along Highland Valley Road have the potential to result in impacts on sensitive natural communities/riparian habitat. The southern portion of the pathway along Rangeland Road would cross the Santa Maria Creek and its associated riparian habitat. In addition, a drainage channel runs along the north side of Highland Valley Road and an associated patch of southern willow scrub occurs north of Highland Valley Road adjacent to the Oak Country II staging area.

Impact Bio-4b: Construction of the new trail segments in the NW and NE portions of the Preserve, dry weather crossing of Santa Maria Creek in the NW portion, temporary construction staging area in the NW portion, new offsite trail to connect the NE portion of the Preserve to Rangeland Road, staging area in the NE portion, and other project infrastructure would directly result in impacts on the following sensitive native and naturalized habitats: nonnative grassland (6.27 acres), open coast live oak woodland (0.08 acre), disturbed wetland (0.006 acre), non-vegetated channel (0.002 acre), southern mixed chaparral (0.11 acre), coastal sage-chaparral scrub (0.03 acre), and disturbed coastal sage scrub (0.13 acre). If the alternative crossing of Santa Maria Creek on the RMWD property is utilized, impacts on native or naturalized vegetation communities would be reduced to a total of 5.76 acres: 5.43 acres of nonnative grassland, 0.07 acre of open coast live oak woodland, 0.10 acre of southern mixed chaparral, 0.03 acre of coastal sage-chaparral scrub, and 0.13 acre of disturbed coastal sage scrub. In addition, although not anticipated because trails have been designed such that they are not subject to erosion, the potential future re-routing of trail sections to avoid areas subject to erosion could result in impacts on sensitive natural communities.

Impact Bio-5a: The construction of the dry weather crossing across the Santa Maria Creek in the NW portion of the Preserve would directly impact a total of 0.008 acre of jurisdictional wetland WoUS, and the construction and maintenance of the proposed trail along the section of Old Survey Road that crosses Drainage 3 would result in impacts on 18 square feet (0.0004 acre) regulated as a non-wetland WoUS and 36 square feet (0.0008 acre) of CDFG Streambed.

Impact Bio-5b: If constructed, the southern approximately 0.05-mile southern segment of the pathway along Rangeland Road and the pathway along Highland Valley Road have the potential to result in impacts on jurisdictional waters/wetlands. The southern portion of the pathway along Rangeland Road would cross the Santa Maria Creek and several existing culverts. In addition, a drainage channel runs along the north side of Highland Valley Road and several culverts exist along the north side of Highland Valley Road.

Impact Bio-7: The project could result in the disturbance or destruction of active migratory bird nests and/or eggs protected under the MBTA.

8.2 Mitigation Measures

MM-Bio-3a: In order to avoid potential impacts on federally and/or state-listed plant species, the following measures shall be implemented:

- a. Focused surveys for listed plant species shall be conducted within the vicinity of the offsite east-west trail that connects the eastern and western portions of the Preserve and within the proposed new offsite trail segment on the RMWD property that would be required if the

alternative Santa Maria Creek crossing is utilized to identify any listed plant species in the vicinity. The final alignment of the trail in this located shall avoid impacts on listed plant species.

- b. A biological monitor shall be present during all trail construction and major trail maintenance within the vicinity of areas occupied by listed plant species to ensure avoidance.

MM-Bio-3b: In order to minimize potential impacts on arroyo toad, minimization and avoidance measures shall be implemented during construction of all proposed new trail segments in the NW portion of the Preserve, including the crossing (bridge or dry weather crossing) of Santa Maria Creek and during major trail maintenance in the vicinity of suitable/occupied arroyo toad habitat. Measures to be implemented will be finalized during consultation under the Federal Endangered Species Act, but could include the following:

- a. No construction activities shall take place during the arroyo toad breeding season (March 15 through July 1) within suitable arroyo toad breeding habitat.
- b. Access to the project sites shall be via existing access routes to the greatest extent possible. Project-related vehicle travel will be limited to daylight hours as arroyo toads use roadways primarily during nighttime hours.
- c. Activities that attract small insects (e.g., ants) and toad predators shall be minimized by keeping the project sites as clean as possible. All food-related trash will be placed in sealed bins or regularly removed from the site.
- d. Dust control (i.e., water truck spraying) shall be performed in a manner that does not attract toads into the action area and by performing when the toad exclusion fence is up and minimizing overspray.
- e. Arroyo toad exclusion fencing shall be installed around the perimeter of all work areas within potential arroyo toad upland habitat prior to construction. The purpose of the fence is to exclude arroyo toads from the work sites. Such fencing will consist of fabric or plastic at least 2 feet high, staked firmly to the ground with the lower 1 foot of material stretching outward along the ground and secured with a continuous line of gravel bags. No digging or vegetation removal will be associated with the installation of this fence and all fencing materials (i.e., mesh, stakes, etc.) will be removed following construction within the work area. Ingress and egress of equipment and personnel will use a single access point to the site. This access point will be as narrow as possible and will be closed off by exclusionary fencing when personnel are not on the project site.
- f. Within the week prior to commencement of construction activities, but after exclusionary fencing has been installed, at least two surveys for arroyo toads shall be conducted on consecutive nights within the fenced areas by a USFWS-approved biologist. Surveys will be conducted during appropriate climatic conditions and during the appropriate time of day or night to maximize the likelihood of encountering toads. If climatic conditions are not appropriate for arroyo toad movement during the surveys, a qualified biologist may attempt to illicit a response from the arroyo toads (during the night [i.e., at least 1 hour after sunset] with temperatures above 50°F), by spraying the project area with water to simulate a rain event. If arroyo toads are found within the project area they will be captured and translocated, by the biologist, to the closest area of suitable habitat along Santa Maria Creek.

The biologist will coordinate with the County and the USFWS to determine a specific translocation site prior to moving any arroyo toads. The date, time of capture, specific location of capture (using GPS), approximate size, age, and health of the individual will be recorded and provided to the USFWS, within 2 weeks of the translocation, in both hard copy and digital format.

- g. The project biologist shall be present at the end of the day to ensure that the excavations are properly covered to prevent toads from entering any open pits. The project biologist will be on call and available as needed at other times in the event that a toad is encountered during the activities. The project biologist will be present on site full-time, for 2–3 days, following any measurable rainfall.
- h. Upon notification of a toad sighting, the project biologist shall contact the County. The County will contact the USFWS directly. Any type of “take” of toads, which includes digging up, handling (i.e., relocating the toad), injury, or death will be reported immediately to the County.
- i. If determined to be necessary, trail maintenance activities shall avoid impacts on arroyo toad habitat to the maximum extent feasible and a biological monitor shall be present during major trail maintenance within suitable/occupied habitat to ensure potential impacts are avoided or minimized to the extent feasible.

MM-Bio-3c: In order to avoid potential impacts on Stephens’ kangaroo rats, the following measures shall be implemented:

- a. A biological monitor shall be present during all trail construction and major trail maintenance within suitable/occupied SKR habitat to ensure avoidance of occupied burrows.
- b. Prior to conducting trail maintenance activities in areas known to support SKR, a qualified biologist shall mark all occupied or potentially occupied SKR burrows. Marked burrows shall be avoided by a distance of no less than 5 feet when using mechanical equipment.

MM-Bio-3d: In order to avoid potential impacts on federally and/or state-listed wildlife species, the following measures shall be implemented:

- a. A habitat assessment shall be conducted within the vicinity of the offsite trail segment on the RMWD property that would be required if the alternative Santa Maria Creek crossing is utilized, and locations of major trail maintenance to identify the potential for the area to support federally and/or state-listed wildlife species. The final alignment of the trail in these locations shall avoid direct impacts on listed wildlife species. If the area is determined to support suitable habitat for listed species, focused surveys may be required for those species to identify presence/absence and to ensure avoidance.
- b. A biological monitor shall be present during all trail construction and major trail maintenance within the vicinity of areas occupied by listed wildlife species to ensure avoidance.

MM-Bio-3e: In order to avoid potential impacts on County List A and/or B plant species, the following measures shall be implemented:

- a. Focused surveys for County List A and B plant species shall be conducted within the vicinity of the offsite east–west trail that connects the eastern and western portions of the Preserve, along the off-site trail segment that would be required if the alternative Santa Maria Creek crossing is utilized, and in the vicinity of locations of major trail maintenance to identify any County List A and B plant species in the vicinity. The final alignment of the trails in these locations shall avoid impacts on County List A and B plant species to the extent feasible.
- b. A biological monitor shall be present during all trail construction and major trail maintenance within the vicinity of areas occupied by County List A and B plant species to ensure impacts are avoided or minimized to the extent feasible.

MM-Bio-3f: Same a MM-Bio-3b.

MM-Bio-3g: In order to avoid potential impacts on burrowing owls, a preconstruction survey shall be conducted within the vicinity of the offsite east–west trail that connects the eastern and western portions of the Preserve and within the offsite trail segment that would be required if the alternative Santa Maria Creek crossing is utilized to identify any active burrows in the vicinity. Pre-construction surveys must be completed no more than 30 days before initial brushing, clearing, grubbing, or grading of this new trail section. The final trail alignment in this location shall avoid impacts on occupied burrows and, if occupied burrows are found within 300-feet of the proposed trail, trail construction shall occur outside of the breeding season for this species (i.e., September 1 to January 31).

MM-Bio-3h: In order to avoid a violation of the MBTA, vegetation clearing or grading shall be restricted during the breeding season for migratory birds (approximately January 15 through September 15 annually) unless preconstruction surveys by a qualified biologist determine no nesting birds protected by the MBTA are located within grading/vegetation clearing areas. If active nests are identified within the impact area on site, vegetation clearing activities shall not occur within 300 feet of migrant songbird nests, 500 feet of tree nesting raptor nests, and 800 feet of ground-nesting raptor nests until either the breeding season has ended or the nest is no longer active.

MM-Bio-4a: The final alignment and design of the southern section of the pathway along Rangeland Road and the pathway along Highland Valley Road will avoid impacts on sensitive natural communities/riparian habitat to the maximum extent feasible. Where unavoidable impacts are proposed, they will be quantified and mitigated in accordance with MM-Bio-4b.

MM-Bio-4b: Significant impacts on sensitive natural communities resulting from unavoidable impacts will be offset by the off-site preservation of habitat, the purchase of mitigation credits within an approved mitigation bank, or in accordance with County Board Policy I-138 at established mitigation ratios (e.g., in accordance with ratios outlined in the county's adopted MSCP or, when adopted, the North County MSCP).

MM-Bio-5a: Prior to impacting regulated waters, including wetlands, the following permits/approval shall be required to be obtained: (1) USACE, CWA, Section 404 permit for placement of dredged or fill material within WoUS (2) RWQCB, CWA, Section 401 state water quality certification/waiver for an action that may result in degradation of waters of the State; and (3) CDFG Streambed Alteration Agreement. If a span bridge is constructed for the proposed crossing of Santa Maria Creek (or if the alternative crossing of Santa Maria Creek on the RMWD

property is utilized), impacts would be avoided and no mitigation would be required. While the construction of a trail/dry weather crossing of Santa Maria Creek would result in impacts, wetland creation is not proposed. The impact area, and immediately adjacent areas, is currently unvegetated and after project implementation, would continue to convey water. Mitigation for impacts on jurisdictional wetlands (disturbed wetland and non-vegetated channel) and non-wetland waters is proposed to consist of off-site restoration, and/or enhancement; the details of the mitigation for impacts on jurisdictional resources (including a conceptual mitigation plan) will be finalized as part of the permitting process with the USACE, CDFG, and RWQCB.

MM-Bio-5b: The final alignment and design of the southern section of the pathway along Rangeland Road and the pathway along Highland Valley Road will avoid impacts on jurisdictional wetlands and waters. Where unavoidable impacts are proposed, a formal wetland delineation shall be conducted of the impact area, the impacts will be quantified, and impacts will be mitigated in accordance with MM-Bio-5a.

MM-Bio-7: Same as MM-Bio-3h.

Table 8-1. Habitat/Vegetation Communities Impacts and Proposed Mitigation (Proposed Project)

Vegetation Community/Land Cover Type	Impact Acreage	Mitigation Ratio ²	Required Mitigation Acreage	Acres Preserved ³	Offsite Mitigation Acreage
Scrub and Chaparral					
Diegan Coastal Sage Scrub	--	--	--	151.02	--
Disturbed Diegan Coastal Sage Scrub	0.13	2:1	0.26	47.84	0.26
Coastal Sage-Chaparral Scrub	0.03	2:1	0.06	201.31	0.06
Southern Mixed Chaparral	0.11	0.5:1	0.055	1,228.00	0.055
Disturbed Southern Mixed Chaparral	--	--	--	157.80	--
Chamise Chaparral	--	--	--	18.81	--
Scrub Oak Chaparral	--	--	--	57.80	--
<i>Subtotal</i>	<i>0.27</i>		<i>0.375</i>	<i>1,862.58</i>	<i>0.375</i>
Grasslands					
Valley Needlegrass Grassland	--	--	--	8.16	--
Nonnative Grassland	6.27	1:1	6.27	1,390.11	6.27
<i>Subtotal</i>	<i>6.27</i>		<i>6.27</i>	<i>1,398.27</i>	<i>6.27</i>
Wetlands					
Open Water	--	--	--	0.84	--
Alkali Marsh	--	--	--	8.81	--
Emergent Wetland	--	--	--	0.84	--
Disturbed Wetland	0.006	3:1	0.018	0.804	0.018
Non-Vegetated Channel	0.002	3:1	0.006	0.348	0.006
Southern Coast Live Oak Riparian Forest	--	--	--	9.37	--
Mule Fat Scrub	--	--	--	23.26	--
Southern Willow Scrub	--	--	--	14.26	--
<i>Subtotal</i>	<i>0.008</i>		<i>0.024</i>	<i>58.532</i>	<i>0.024</i>
Woodlands					
Nonnative Woodland	--	--	--	1.02	--
Eucalyptus Woodland	--	--	--	16.10	--

Vegetation Community/Land Cover Type	Impact Acreage	Mitigation Ratio ²	Required Mitigation Acreage	Acres Preserved ³	Offsite Mitigation Acreage
Open Coast Live Oak Woodland	0.08	3:1	0.24	20.50	0.24
Dense Coast Live Oak Woodland	--	--	--	82.13	--
<i>Subtotal</i>	<i>0.08</i>		<i>0.24</i>	<i>119.75</i>	<i>0.24</i>
Other Land Cover Types					
Disturbed Habitat	0.0008 ¹	1:1	0.0008	23.8792	0.0008 ¹
Agriculture	--	--	--	17.88	--
Developed Lands	--	--	--	1.50	--
<i>Subtotal</i>	<i>0.0008</i>		<i>0.0008</i>	<i>43.2592</i>	<i>0.0008</i>
Total	6.629		6.910	3,482.391	6.910

¹ Impacts (0.0008 acre) at the location of the delineated Drainage 3 (USACE non-wetland WoUS/CDFG Streambed) that crosses Old Survey Road (disturbed habitat) would be significant and would require mitigation; other impacts on disturbed/developed lands are not quantified and would not require mitigation. It is proposed that mitigation for impacts on 0.0008 acre of this non-wetlands water/CDFG Streambed consist of off-site enhancement/restoration at a ratio of 1:1.

² These ratios are subject to change if the North County MSCP is approved prior to project implementation.

³ Acreage within the Preserve not impacted as part of the proposed project does not count towards the necessary mitigation acreage for impacts on sensitive vegetation communities

Table 8-2. Habitat/Vegetation Communities Impacts and Proposed Mitigation (Alternative Creek Crossing)

Vegetation Community/Land Cover Type	Impact Acreage	Mitigation Ratio ²	Required Mitigation Acreage	Acres Preserved ³	Off-site Mitigation Acreage
Scrub and Chaparral					
Diegan Coastal Sage Scrub	--	--	--	151.02	--
Disturbed Diegan Coastal Sage Scrub	0.13	2:1	0.26	47.84	0.26
Coastal Sage-Chaparral Scrub	0.03	2:1	0.06	201.31	0.06
Southern Mixed Chaparral	0.10	0.5:1	0.05	1,228.01	0.05
Disturbed Southern Mixed Chaparral	--	--	--	157.80	--
Chamise Chaparral	--	--	--	18.81	--
Scrub Oak Chaparral	--	--	--	57.80	--
<i>Subtotal</i>	<i>0.26</i>		<i>0.37</i>	<i>1,862.59</i>	<i>0.37</i>
Grasslands					
Valley Needlegrass Grassland	--	--	--	8.16	--
Nonnative Grassland	5.43	1:1	5.43	1,390.95	5.43
<i>Subtotal</i>	<i>5.43</i>		<i>5.43</i>	<i>1,399.11</i>	<i>5.43</i>
Wetlands					
Open Water	--	--	--	0.84	--
Alkali Marsh	--	--	--	8.81	--
Emergent Wetland	--	--	--	0.84	--
Disturbed Wetland	--	--	--	0.81	--
Non-Vegetated Channel	--	--	--	0.35	--
Southern Coast Live Oak Riparian Forest	--	--	--	9.37	--
Mule Fat Scrub	--	--	--	23.26	--
Southern Willow Scrub	--	--	--	14.26	--
<i>Subtotal</i>	<i>--</i>		<i>--</i>	<i>58.54</i>	<i>--</i>
Woodlands					
Nonnative Woodland	--	--	--	1.02	--
Eucalyptus Woodland	--	--	--	16.10	--
Open Coast Live Oak Woodland	0.07	3:1	0.21	20.51	0.21

Vegetation Community/Land Cover Type	Impact Acreage	Mitigation Ratio ²	Required Mitigation Acreage	Acres Preserved ³	Off-site Mitigation Acreage
Dense Coast Live Oak Woodland	--	--	--	82.13	--
<i>Subtotal</i>	<i>0.07</i>		<i>0.21</i>	<i>119.75</i>	<i>0.21</i>
Other Land Cover Types					
Disturbed Habitat	0.0008 ¹	1:1	0.0008	23.8792	0.0008 ¹
Agriculture	--	--	--	17.88	--
Developed Lands	--	--	--	1.50	--
<i>Subtotal</i>	<i>0.0008</i>		<i>0.0008</i>	<i>43.2592</i>	<i>0.0008</i>
Total	5.761		6.011	3,483.249	6.011

¹ Impacts (0.0008 acre) at the location of the delineated Drainage 3 (USACE non-wetland WoUS/CDFG Streambed) that crosses Old Survey Road (disturbed habitat) would be significant and would require mitigation; other impacts on disturbed/developed lands are not quantified and would not require mitigation. It is proposed that mitigation for impacts on 0.0008 acre of this non-wetlands water/CDFG Streambed consist of off-site enhancement/restoration at a ratio of 1:1.

² These ratios are subject to change if the North County MSCP is approved prior to project implementation.

³ Acreage within the Preserve not impacted as part of the proposed project does not count towards the necessary mitigation acreage for impacts on sensitive vegetation communities

Table 8-3. Summary of Mitigation Measures

Proposed Mitigation Measure	Level of Significance after Mitigation	Guideline number(s)
MM-Bio-3a	Less Than Significant	3.1.a
MM-Bio-3b	Less Than Significant	3.1.a, 3.1.b, 3.1.d, 7.1.i
MM-Bio-3c	Less Than Significant	3.1.a, 3.1.b, 7.1.i
MM-Bio-3d	Less Than Significant	3.1.a
MM-Bio-3e	Less Than Significant	3.1.b
MM-Bio-3f	Less Than Significant	3.1.d
MM-Bio-3g	Less Than Significant	3.1.l, 7.1.i
MM-Bio-3h	Less Than Significant	3.1.l
MM-Bio-4a	Less Than Significant	4.1.a
MM-Bio-4b	Less Than Significant	4.1.a
MM-Bio-5a	Less Than Significant	4.1.b
MM-Bio-5b	Less Than Significant	4.1.b
MM-Bio-7	Less Than Significant	7.1.k

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Chapter 9

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Chapter 10

List of Preparers and Persons and Organizations Contacted

10.1 Preparers

- Erin Schorr: Project Manager, Author, County Certified Biologist
- Dale Ritenour: Biologist
- Andrew Borchert: Biologist
- Korey Klutz: Biologist; County Certified
- Kylie Fischer: Biologist
- Phil Richards: Biologist
- Kailash Mozumder: Biologist
- Doug Allen: Biologist; County Certified
- Cindy Dunn: Biologist
- Michelle Balk: Biologist
- Teal Zeisler: GIS

10.2 Contacts

- Drew Stokes: San Diego Natural History Museum

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Attachment A

**Jurisdictional Delineation Report for
the Ramona Grasslands Preserve Project**

JURISDICTIONAL DELINEATION REPORT FOR THE RAMONA GRASSLANDS PRESERVE PROJECT

■ County of San Diego Department of Parks and Recreation ■ August 2011

JURISDICTIONAL DELINEATION REPORT FOR THE RAMONA GRASSLANDS PRESERVE PROJECT

PREPARED FOR:

County of San Diego
Department of Parks and Recreation
5500 Overland Avenue, Suite 410
San Diego, California 92123
Contact: Ms. Jennifer Price

PREPARED BY:

ICF International
9775 Businesspark Avenue, Suite 200
San Diego, California 92131

August 2011



ICF International. 2011. Jurisdictional Delineation Report for the Ramona Grasslands Preserve Project. August (ICF 00168.09) San Diego, CA. Prepared for County of San Diego Parks and Recreation, San Diego, CA.

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Acronyms and Abbreviations

EPA	U.S. Environmental Protection Agency
CDFG	California Department of Fish and Game
CFR	Code of Federal Regulations
County	County of San Diego
DPR	Department of Parks and Recreation
FAC	facultative
FACW	facultative wetland
Ft	feet
GPS	Global Positioning System
I-15	Interstate 15
ICF	ICF International
JDs	jurisdictional delineations
M	meters
North County MSCP	North County Multiple Species Conservation Program
OBL	obligate
OHWM	ordinary high-water mark
Porter-Cologne	Porter-Cologne Water Quality Control Act
Preserve	Ramona Grasslands Preserve
Preserve PAP	Ramona Grasslands Preserve Public Access Plan
Preserve RMP	Ramona Grasslands Preserve Resource Management Plan
project	Ramona Grasslands Preserve Project
RGL	Regulatory Guidance Letter
RPWs	Relatively permanent waters
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SR-78	State Route 78
SS	state streambeds
SWANCC	Solid Waste Agency of North Cook County

SWRCB	State Water Resources Control Board
TNWs	traditional navigable waters
TuB	Tujunga soil series
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	US Department of Agriculture
WoS	Waters of the State
WoUS	Waters of the U.S.

Executive Summary

ICF International (ICF) was retained by the County of San Diego (County) Department of Parks and Recreation (DPR) to conduct a routine-level delineation of jurisdictional waters and wetlands in the vicinity of a proposed crossing of Santa Maria Creek and along Old Survey Road located in the northwest portion of the Ramona Grasslands Preserve (Preserve).

Proposed public access in the northwest portion of the Preserve includes the dedication of a formal trail along Old Survey Road (an existing dirt road that runs primarily south to north through the northwest portion of the Preserve) and a crossing of Santa Maria Creek, which would initially include a 4-foot-wide dry weather crossing. At some point in time, an all weather structural crossing (e.g., bridge) would be constructed for pedestrian, bicyclist, and equestrian use. The structural crossing would have a maximum width of 12 feet and would consist of non-slip and all-weather materials consistent with the guidelines from the Community Trails Master Plan (County 2009). The structural crossing would be designed with sufficient length to span Santa Maria Creek with little to no direct impacts to federal and state jurisdictional waters or wetlands.

The purpose of this delineation was to (A) identify the extent of jurisdictional waters within the vicinity of the proposed crossing in order to determine (1) the area where a dry weather crossing would have the least amount of impacts to jurisdictional wetlands/waters and (2) the necessary length of a potential future bridge that would span the jurisdictional wetland/waters, and (B) to determine whether construction and maintenance of a trail along Old Survey Road would result in impacts to jurisdictional resources. Relevant jurisdictions include federal waters regulated by the United States Army Corps of Engineers (USACE) as Waters of the U.S. (WoUS) or USACE wetlands, state waters regulated by the San Diego Regional Water Quality Control Board (RWQCB) as Waters of the State (WoS), and state streambeds (SS) regulated by the California Department of Fish and Game (CDFG).

The section of Santa Maria Creek evaluated during the delineation was determined to be a perennial wetland WoUS and the adjacent floodplain was determined to be disturbed wetlands, all under the joint jurisdiction of USACE, CDFG, and RWQCB. The width of the delineated jurisdictional habitat at the location of the proposed crossing is approximately 90 feet, consisting of a 20-foot wide incised channel and a vegetated active floodplain extending approximately 20 feet to the west and 50 feet to the east of the channel, respectively. Construction of a span bridge at this location, with footings installed outside of the identified 90-foot-wide jurisdictional area, could result in the avoidance of impacts to jurisdictional waters. However, if a 4-foot wide dry weather crossing is constructed instead of a bridge, it would result in a total of 0.008 acre of permanent impacts to jurisdictional habitat, including approximately 80 square feet (0.002 acre) of wetland WoUS and 280 square feet (0.006 acre) of disturbed wetlands.

Three drainage features were identified along Old Survey Road that were determined to be non-wetland waters under the joint jurisdiction of USACE, CDFG, and RWQCB. The first one (Drainage 1) is located just northeast of the proposed crossing of Santa Maria Creek, the second (Drainage 2) is located approximately 1,000 feet north of the proposed crossing, and the third (Drainage 3) is located approximately 4,000 feet north of the proposed crossing. Drainages 1 and 2 cross Old Survey Road via existing culverts and the actual roadbed would, therefore, not fall under the jurisdiction of the USACE, CDFG, or RWQCB. As the construction and maintenance of the proposed trail along Old Survey Road would not result in impacts beyond the existing dirt roadbed, direct

impacts to Drainages 1 and 2 would not occur as a result of the proposed project. Drainage 3 crosses a section of Old Survey Road that has not been actively maintained. The drainage channel supports a mesic vegetation community, which is evidence that water intermittently flows through this approximately 3- to 6-foot wide channel; no culvert exists at this location. Construction and maintenance of the proposed trail along this section of Old Survey Road would result in impacts to 18 square feet (0.0004 acre) regulated as a non-wetland WoUS and 36 square feet (0.0008 acre) of CDFG streambed. Erosion features were observed along portions of Old Survey Road north of Drainage 3; however, these areas are not proximal and do not share a surface connection to WoUS. Therefore, these areas would not fall under the jurisdiction of the USACE, CDFG, or RWQCB.

Chapter 1

Introduction

This report documents a routine-level jurisdictional delineation performed for a proposed crossing of the Santa Maria Creek and for the construction/maintenance of a formal trail along Old Survey Road in the northwest portion of the County Department of Parks and Recreation (DPR) Preserve. The delineation's purpose was to identify potential Section 404 wetlands, State Wetlands, WoUS, WoS, and Streams and Lakes subject to California Fish and Game Code 1600 within and adjacent to the proposed crossing and within the proposed formal trail that would follow the existing Old Survey Road.

This jurisdictional delineation report describes the study area and existing conditions, discusses the regulations that govern the area, outlines the methodology used to conduct the delineation, and presents the results of the study. These results show the potentially jurisdictional resources found within the project site that may be subject to regulation by the USACE, State Water Resources Control Board (SWRCB), and CDFG.

Project Description

The proposed Ramona Grasslands Preserve Project (project) would provide resource management and recreational use improvements to enhance the existing Preserve. The 3,490-acre Preserve was acquired in sections starting in 2003 for inclusion in the North County Multiple Species Conservation Program (MSCP; North County MSCP) preserve system. DPR is responsible for management, biological and cultural resources monitoring, and meeting the conditions of MSCP coverage on County-owned lands. The Preserve is operated, administered, and managed by the DPR.

The project has four components including implementation of the management directives identified in the Ramona Grasslands Preserve Resource Management Plan (Preserve RMP)(County 2011a) and the Ramona Grasslands Preserve Vegetation Management Plan (Preserve VMP) (County 2011b); establishment of a multi-use trail system within the Preserve consistent with the Ramona Grasslands Preserve Public Access Plan (Preserve PAP), a component of the Preserve RMP (County 2011c); and construction of supporting infrastructure improvements.

Components of the project that would potentially result in direct impacts to jurisdictional wetlands/waters are limited to (1) a proposed crossing of Santa Maria Creek in the northwest portion of the Preserve and (2) the dedication and maintenance of a formal trail along Old Survey Road, which crosses several drainage features. The crossing of Santa Maria Creek is initially proposed to be a 4-foot-wide dry weather crossing. At some point in time, an all weather structural crossing (e.g., bridge) would be constructed for pedestrian and equestrian use. The structural crossing would have a maximum width of 12 feet and would consist of non-slip and all-weather materials consistent with the guidelines from the Community Trails Master Plan (County 2009). The structural crossing would be designed with sufficient length to span Santa Maria Creek with little to no direct impacts to federal and state jurisdictional waters or wetlands. The proposed formal trail along Old Survey Road would occur within the limits of the existing approximately 8-foot wide dirt

road; no widening is proposed. Along unmaintained sections of Old Survey Road a 4-foot-wide trail would be constructed with one foot of brush management occurring along either side of the trail.

A full description of the project, including management directives identified in the Preserve RMP, Preserve VMP, the multi-use trail system; and the construction of supporting infrastructure improvements, is provided in the Biological Resources Report prepared for the project (ICF 2011).

Project Location

The Preserve is located in northern San Diego County approximately six (6) miles east of Interstate 15 (I-15), approximately 1.5 miles south of State Route 78 (SR-78), approximately 1.4 miles north of SR-67, and approximately two (2) miles west of downtown Ramona, California (Figures 1 and 2). The proposed crossing of Santa Maria Creek, which flows through the Preserve, is approximately one half mile west of Rangeland Road and 1.3 miles north of Highland Valley Road within the northwest portion of the Preserve. This crossing is part of a new section of trail that would provide a connection from the approved Oak Country II trail system (in the southwest portion of the Preserve) to Old Survey Road, an existing dirt road that runs north-south and east through the northwest portion of the Preserve (which would become a dedicated trail as part of the proposed project).

Environmental Setting

The Preserve is located within Santa Maria Valley, which consists of a broad basin surrounded by gentle hills and rocky rises. The proposed crossing of Santa Maria Creek is located at approximately 394 meters (m) (1,300 feet [ft]) above mean sea level. Santa Maria Creek drains Santa Maria Valley, including the community of Ramona, and flows through the site in a northerly direction. The creek is mapped as ephemeral on San Pasqual 7.5-minute USGS quad. A small concrete dam adjacent to a gauging station impounds the creek at the north end of the study area for the proposed crossing; water flows over the dam during high flows. The study area for the proposed crossing is characterized by coast live-oak woodland interspersed with non-native grasslands and disturbed wetlands.

The proposed project site for the crossing is underlain by the *Tujunga* soil series (TuB), which is characterized as deep, excessively drained sands derived from granitic alluvium with slopes of 0 to 5% (Bowman 1973). Results of field soil pits were consistent with the soils mapped.

Old Survey Road runs generally south to north through the northwest portion of the Preserve and crosses several unnamed tributaries to Santa Maria Creek. The approximately 1-mile southern extent of Old Survey Road within the northwest portion of the Preserve is well maintained, while the remainder of the road within the Preserve is overgrown to varying degrees. The road itself is classified as disturbed and adjacent vegetation communities range from grasslands to scrubs to oak woodlands.

The following sections summarize the regulations imposed on each type of jurisdictional feature potentially present in the vicinity of the proposed crossing of Santa Maria Creek and along Old Survey Road.

U.S. Army Corps of Engineers Regulated Activities

USACE-regulated activities under Section 404 of the CWA involve a discharge of dredged or fill material into Waters of the U.S. (WoUS). A discharge of fill material includes, but is not limited to, grading, placing riprap for erosion control, pouring concrete, laying sod, and stockpiling excavated material into WoUS. Activities that generally do not involve a regulated discharge (if performed specifically in a manner to avoid discharges) include driving pilings, performing some drainage channel maintenance activities, constructing temporary mining and farm/forest roads, and excavating without stockpiling.

Waters of the U.S.

WoUS, as defined in the Code of Federal Regulations (CFR) title 33, section 328.3, include all waters or tributaries to waters, such as lakes, rivers, intermittent and perennial streams, mudflats, sand flats, natural ponds, wetlands, wet meadows, and other aquatic habitats.

Frequently, a WoUS (with at least intermittently flowing water or tidal influences) is demarcated by the ordinary high-water mark (OHWM), defined in CFR 328.3(e) as:

that line on the shore established by the fluctuations of water and indicated by physical characteristics such as [a] clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Where an OHWM is present, waters may be defined as WoUS when connectivity is determined to be present.

Wetlands

According to the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* (Federal Interagency Committee for Wetland Delineation 1989), three criteria must be satisfied to classify an area as a jurisdictional wetland: (1) a predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation); (2) soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and (3) permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology) (Environmental Laboratory 1987).

Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers

In 1986, in an attempt to clarify the reach of its jurisdiction, USACE stated that Section 404(a) extends to intrastate waters that

(a) are or would be used as habitat by birds protected by migratory bird treaties, or (b) are or would be used as habitat by other migratory birds which cross state lines, or (c) are or would be used as habitat for endangered species, or (d) used to irrigate crops sold in interstate commerce (51 *Federal Register* 41217).

As a result of the 2001 *Solid Waste Agency of North Cook County (SWANCC)* case, the U.S. Supreme Court held that USACE may not rely on the Migratory Bird Rule to establish a significant nexus to interstate or foreign commerce. Although no formal guidance was issued by USACE interpreting the extent to which the *SWANCC* decision would limit jurisdictional determinations, in practice USACE considers intrastate waters as WoUS where there is an appropriate connection to a navigable water or other clear interstate commerce connection. Therefore, WoUS, including jurisdictional wetlands, must show connectivity with (be tributary to) navigable WoUS for such a feature to be considered jurisdictional.

Rapanos v. United States and Carabell v. U.S. Army Corps of Engineers

In 2006, the U.S. Supreme Court again issued an opinion regarding the extent of USACE jurisdiction over certain waters under Section 404 of the CWA. The *Rapanos-Carabell* consolidated decisions addressed the question of jurisdiction over attenuated tributaries to WoUS as well as wetlands adjacent to those tributaries. In a plurality decision, five of the nine justices remanded both cases to the lower courts for re-evaluation. However, those five justices disagreed as to what the test for determining jurisdiction should be.

The first approach (Justices Scalia, Roberts, Thomas, and Alito) held that “waters of the United States” include only those relatively permanent, standing, or continuously flowing bodies of water “forming geographic features” that are described in ordinary phrasing as “streams, oceans, river and lakes” (i.e., with surface water connection to navigable waters). This would not exclude streams, rivers, or lakes that might dry up in extraordinary circumstances, such as drought, or seasonal rivers that contain continuous flow during some months of the year but no flow during dry months (*Rapanos et ux. et al. v. United States*, 547 U.S. 04-1034 [2006]).

The second approach (Justice Kennedy) concluded that Congress enacted the CWA to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters” (33 United States Code [USC] Section 1250(a)). Therefore, if the tributaries and adjacent wetlands, alone or in combination with similarly situated lands in the region, significantly affect the chemical, physical, and biological integrity of other covered waters understood as navigable in the traditional sense, these waters come within the statutory phrase “navigable waters.” USACE’s jurisdiction under the CWA reaches tributaries and other waters and wetlands with a significant nexus to waters that are in fact navigable or could reasonably be made so. However, USACE must establish a significant nexus on a case-by-case basis when seeking to regulate wetlands based on adjacency to nonnavigable tributaries to avoid unreasonable applications of the CWA.

USACE and the U.S. Environmental Protection Agency (EPA) issued guidance related to the *Rapanos* decision on June 5, 2007. The guidance identifies those waters over which the agencies (USACE and EPA) will assert jurisdiction categorically and on a case-by-case basis, based on the reasoning of the *Rapanos* opinions. To summarize, USACE will continue to assert jurisdiction over

1. traditional navigable waters (TNWs) and their adjacent wetlands;
2. nonnavigable tributaries of TNWs that are relatively permanent (e.g., tributaries that typically flow year-round or have a continuous flow at least seasonally) and wetlands that directly abut such tributaries (e.g., not separated by uplands, berm, dike, or similar feature) (note: relatively permanent waters [RPWs] do not include ephemeral tributaries, which flow only in response to precipitation, and intermittent streams, which do not typically flow year-round or have continuous flow at least seasonally [e.g., typically three months]); and
3. non-RPWs if determined (in a fact-specific analysis) to have a significant nexus with a TNW, including nonnavigable tributaries that do not typically flow year-round or have continuous flow at least seasonally, wetlands adjacent to such tributaries, and wetlands adjacent to but not directly abutting a relatively permanent nonnavigable tributary. Absent a significant nexus, jurisdiction is lacking.

A significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical, and/or biological integrity of a TNW. Principal considerations when evaluating significant nexus include volume, duration, and frequency of the flow of water in the tributary and the proximity of the tributary to a TNW, plus hydrologic, ecologic, and other functions performed by the tributary and all of its adjacent wetlands. Certain ephemeral waters in the arid west are distinguishable from the geographic features described above where such ephemeral waters are tributaries and have a significant nexus to downstream TNWs. For example, these ephemeral tributaries may serve as a transitional area between the upland environment and the TNW. Such ephemeral tributaries may provide habitat for wildlife and aquatic organisms in downstream TNWs and support nutrient cycling, sediment retention and transport, pollutant trapping and filtration, and improvement of water quality.

Swales or erosional features (e.g., gullies and small washes characterized by low volume and infrequent or short-duration flow) are generally not WoUS because they are not tributaries or they do not have a significant nexus to downstream TNWs. In addition, ditches (including roadside ditches) excavated wholly in uplands and draining only uplands that do not carry a relatively permanent flow of water are generally not WoUS because they are not tributaries or they do not have a significant nexus to downstream TNWs. Even when not jurisdictional under Section 404 of the CWA, these features may still be jurisdictional at state or local levels, such as under Section 401 of the CWA, the Porter-Cologne Water Quality Control Act (Porter-Cologne), and/or Section 1602 of the California Fish and Game Code.

Approved Jurisdictional Determinations

Prior to the *Rapanos* guidance, USACE required districts to request concurrence for only those jurisdictional delineations (JDs) where the district was planning to assert jurisdiction over a nonnavigable, intrastate, isolated water, and/or wetland. Under *Rapanos*, the agencies require that all determinations for nonnavigable, isolated waters be evaluated by USACE and EPA headquarters prior to USACE making a final decision on the JD (an “approved JD”).

An approved JD is an official USACE determination that jurisdictional or navigable WoUS are either present or absent on a particular site. The approved JD precisely identifies the limits of those waters on the project site. Approved JDs are documented in accordance with Regulatory Guidance Letter (RGL) 07-01 and require the use of the approved JD form (*Rapanos* form). An approved JD form is completed for each reach of each tributary on the project site and is reviewed by USACE and EPA. Legally, an approved JD represents USACE's official determination that the JD's findings are correct, is valid for five (5) years, can be used and relied upon in a CWA citizen's lawsuit if its legitimacy is challenged (except under extraordinary circumstances), and can be immediately appealed (33 CFR Part 331).

Preliminary Jurisdictional Determinations

Under RGL 08-02, dated June 26, 2008, USACE established an alternative to the approved JD process: the "preliminary JD." A preliminary JD is a non-binding written indication that there may be WoUS, including wetlands, on a project site and identifies the approximate location of these features. Preliminary JDs are used when a landowner, permit applicant, or other affected party elects to voluntarily waive or set aside questions regarding CWA jurisdiction over a particular site, usually in the interest of allowing the landowner to move ahead expeditiously to obtain 404 authorization where the party determines that it is in his or her best interest to do so. A preliminary JD is not an official determination regarding the jurisdictional status of potentially jurisdictional features and has no bearing on approved JDs. A preliminary JD cannot be used to confirm the absence of jurisdictional waters or wetlands, is advisory in nature, and cannot be appealed. It is considered "preliminary" because a recipient can later request an approved JD if one is necessary or appropriate.

Finally, although a preliminary JD may be chosen by the applicant, the district engineer reserves the right to use an approved JD where warranted. A preliminary JD is documented using the preliminary JD form, provided as Attachment 1 to RGP 08-02. For purposes of computation of impacts, compensatory mitigation requirements, and other resource protection measures, a permit decision made on the basis of a preliminary JD treats all waters and wetlands that would be affected in any way except by the permitted activity as if they are jurisdictional.

State Water Resources Control Board Regulated Activities/Regional Water Quality Control Board

In California, the SWRCB and nine Regional Water Quality Control Boards (RWQCB) regulate activities within state and federal waters under Section 401 of the CWA and the state Porter-Cologne Act. The SWRCB is responsible for setting statewide policy, coordinating and supporting the RWQCB efforts, and reviewing petitions that contest RWQCB actions. Each semi-autonomous RWQCB sets water quality standards, issues 401 certifications and waste discharge requirements, and take enforcement action for projects occurring within their boundary. However, when a project crosses multiple RWQCB jurisdictional boundaries, the SWRCB becomes the regulating agency for both of these acts and issues project permits.

Section 401 of the Clean Water Act

Section 401 of the CWA requires that

any applicant for a federal permit for activities that involve a discharge to waters of the United States shall provide the federal permitting agency a certification from the state in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal Clean Water Act.

Therefore, in California, before USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 water quality certification or waiver from the RWQCB or SWRCB, as applicable. Under Section 401 of the CWA, the SWRCB/RWQCB regulates at the state level all activities that are regulated at the federal level by USACE. Therefore, SWRCB/RWQCB jurisdiction usually matches the jurisdictional boundaries for WoUS (mapped at the OHWM). However, if waters are determined not to be WoUS, they may still be subject to SWRCB/RWQCB jurisdiction based on the Porter-Cologne Act.

Porter-Cologne Act

Under the Porter-Cologne Act, the SWRCB/RWQCB regulates all such activities—as well as dredging, filling, or discharging materials into Waters of the State (WoS)—that are not regulated by USACE because of a lack of connectivity with a navigable water body or lack of an OHWM. The SWRCB/RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, within any region that could affect waters of the state” (California Water Code 13260[a]), pursuant to provisions of the state Porter-Cologne Act. WoS are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (California Water Code 13050 [e]). Such waters may include waters not subject to regulation under Section 404, such as swales or isolated vernal pools.

California Department of Fish and Game Regulated Activities

Under recently revised California Fish and Game Code, Sections 1600–1616, CDFG has the authority to regulate work that will substantially divert or obstruct the natural flow—or substantially change or use any material from the bed, channel, or bank—of any river, stream, or lake. CDFG also has the authority to regulate work that will deposit or dispose of debris, wastewater, or other material containing crumbled, flaked, or ground pavement that may pass into any river, stream, or lake. This regulation takes the form of a requirement for a Lake or Streambed Alteration Agreement and is applicable to all work involving state or local government discretionary approvals.

Section 1602 of the California Fish and Game Code

The California Fish and Game Code mandates that

it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity.

CDFG jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of (1) definable bed and banks and (2) existing fish or wildlife resources. Furthermore, CDFG jurisdiction is often extended to habitats adjacent to watercourses, such as oak woodlands in canyon bottoms or willow woodlands that function hydrologically as part of the riparian system. Historical court cases have further extended CDFG jurisdiction to include watercourses that seemingly disappear but re-emerge elsewhere. Under the CDFG definition, a watercourse need not exhibit evidence of an OHWM to be claimed as jurisdictional.

Water features such as vernal pools and other seasonal swales where the defined bed and bank are absent and the feature is not contiguous or closely adjacent to other jurisdictional features are generally not asserted to fall within state jurisdiction under Section 1602. CDFG generally does not assert jurisdiction over human-made water bodies unless they are located where such natural features were previously located or (importantly) where they are contiguous with existing or prior natural jurisdictional areas.

Project Research

To prepare for a field visit, surveyors obtained an aerial photograph (1 inch = 200 feet) of the site and used it to identify potential site features such as vegetation types, topographic changes, or visible drainage patterns.

Additionally, the US Department of Agriculture (USDA) soil survey map (Bowman 1973) was reviewed to identify the soil series that were mapped in the study area.

Field Delineation Methods

ICF International (ICF) biologists Dale Ritenour and Daylon Teal completed the jurisdictional delineation of the proposed crossing of Santa Maria Creek on February 28, 2011. ICF biologist Glen Kinoshita completed the jurisdictional delineation along Old Survey Road on August 15, 2011. Potential features identified were then investigated further to determine whether they met the criteria of a potentially jurisdictional feature. All features meeting the USACE guidance criteria were delineated. The study area for the February 28 delineation included an approximately 475 foot long stretch of Santa Maria Creek from the southern boundary of the northwest portion of the Preserve (boundary with the RMWD property) north to the existing concrete dam. The delineation was conducted during the rainy season and the region received rainfall two days before the delineation was conducted. Rainfall patterns during February 2011 were not atypical for that month.

The study area for the August 15, 2011 delineation included Old Survey Road from just east of the proposed crossing of Santa Maria Creek north through the Preserve.

Delineated boundaries of all features identified within the study area were recorded using Trimble® GeoXT Global Positioning System (GPS) technology with sub-meter accuracy. Vegetation within the vicinity of the proposed crossing of Santa Maria Creek and Old Survey Road was mapped within the study area on an 1"=100' aerial photograph (Figure 3).

All features identified during the field visit were recorded through a routine-level wetland delineation. Wetlands and non-wetland jurisdictional WoUS were identified during the jurisdictional delineation.

ICF's methods for delineating federal wetlands follow the guidelines set forth by the USACE in the *Arid West Manual* (USACE 2008b). The routine onsite determination method can be used to gather field data at potential wetland areas for most projects. Visual observations of vegetation types and hydrology are used to locate areas for evaluation. Then, at each evaluation area, several parameters are considered to determine whether the sample point is within a wetland.

Three criteria normally must be fulfilled in order to classify an area as a jurisdictional USACE wetland: (1) a predominance of hydrophytic vegetation, (2) the presence of hydric soils, and (3) the presence of wetland hydrology. Details of the application of these techniques are described below.

- **Hydrophytic Vegetation.** The hydrophytic vegetation criterion is satisfied at a location if greater than 50% of all the dominant species present within the vegetation unit have a wetland indicator status of obligate (OBL), facultative wetland (FACW), or facultative (FAC) (USACE 1987). An *OBL indicator status* refers to plants that have a 99% probability of occurring in wetlands under natural conditions. A *FACW indicator status* refers to plants that usually occur in wetlands (67 to 99% probability) but are occasionally found elsewhere. A *FAC indicator status* refers to plants that are equally likely to occur in wetlands or elsewhere (estimated probability 34 to 66% for each). The wetland indicator status used for this report follows the *National List of Plant Species that Occur in Wetlands: California (Region 0)* (U.S. Fish and Wildlife Service 1988).
- **Hydric Soils.** The hydric soil criterion is satisfied at a location if soils in the area can be inferred or observed to have a high groundwater table, if there is evidence of prolonged soil saturation, or if there are any indicators suggesting a long-term reducing environment in the upper 18 inches of the soil profile. Reducing conditions are most easily assessed using soil color. Soil colors were evaluated using the *Munsell Soil Color Charts* (Kollmorgen Corporation 1975).
- **Wetland Hydrology.** The wetland hydrology criterion is satisfied at a location based upon conclusions inferred from field observations that indicate an area has a high probability of being inundated or saturated (flooded, ponded, or tidally influenced) long enough during the growing season to develop anaerobic conditions in the surface soil environment, especially the root zone (USACE 1987, 2008a, 2008b).

Areas meeting all three of these parameters are generally designated as USACE wetlands. If the delineator cannot confirm the presence of all three parameters, but nevertheless strongly believes the area to be a wetland, supporting information can be added to the delineation data sheet or report regarding the delineator's determination.

Delineation of Potential Non-Wetland Waters of the State

Evaluation of SWRCB/RWQCB jurisdiction followed guidance from Section 401 of the CWA and follows the same jurisdictional areas as USACE, unless an isolated water is determined to be present. Isolated water features are not considered jurisdictional under USACE, but are still delineated using the OHWM or wetted area. Isolated water bodies are considered SWRCB/RWQCB jurisdictional under the Porter-Cologne Act.

Evaluation of California Fish and Game Code jurisdiction followed the guidance of related CDFG materials and standard practices by CDFG personnel. CDFG jurisdiction was delineated by measuring outer width and length boundaries of potentially jurisdictional wetlands and nonwetland WoUS, consisting of the greater of either the top of bank measurement (bank full width) or the extent of associated riparian or wetland vegetation.

Delineation of Potential Non-Wetland Waters of the U.S.

ICF methods for the delineation of non-wetland WoUS was based on indicators for OHWM, following established criteria outlined in the *U.S. Army Corps of Engineers Wetlands Delineation Manual*

(Environmental Laboratory 1987), *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a), and *A Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States* (USACE 2008b).

This field guide presents a method for delineating the lateral extent of the WoUS in the Arid West using stream geomorphology and vegetation response to the dominant stream discharge. ICF biologists used this guidance in the field to determine the OHWM for all potentially jurisdictional nonwetland waters.

The field guide describes physical evidence that should be used to ascertain the lateral limits of jurisdiction; generally more than one physical indicator or other means for determining the OHWM is used. The following physical indicators of OHWM were used in the field:

- Natural line impressed on the bank
- Shelving
- Destruction of terrestrial vegetation
- Presence of litter and debris
- Wracking
- Vegetation matted down, bent, or absent
- Sediment sorting
- Leaf litter disturbed or washed away
- Scour
- Deposition
- Bed and banks
- Water staining
- Change in plant community

When documenting the OHWM width, surveyors mapped the boundaries with a sub-meter accuracy Trimble GeoXH GPS.

Sample Points

Santa Maria Creek Crossing

Five sampling points were dug within the survey area for the proposed crossing of Santa Maria Creek. Locations of these pits are shown on Figures 3, 4, and 5. The following is a description of each sampling point. Discussion follows in the succeeding section. Wetland determination data forms for these points are included as Appendix B.

Sampling Point 1: This sampling point was located on a sandy bench approximately 10 feet from the bank of Santa Maria Creek. The only dominant plant species was wild oats (*Avena* sp.) which is an upland species, though this area has had significant disturbance by grazing. The soil pit dug to 17 inches did not reveal the presence of any hydric soil indicators, but this area is in an active floodplain in a mapped hydric soil, with conditions unlikely to produce hydric indicators. Two secondary indicators of hydrology, riverine sediment and drift deposits, were present at this point.

Sampling Point 2: This sampling point was located immediately adjacent to the waterline of Santa Maria Creek. The two dominant plant species, prairie bulrush (*Bolboschoenus maritimus*) and Mexican rush (*Juncus arcticus* ssp. *mexicanus*), are both wetland species. Therefore, this area meets the wetland vegetation criterion. A soil pit dug to five (5) inches in the loamy sand did not reveal any hydric soil indicators, but this area is in an active floodplain in a mapped hydric soil. A high water table at three (3) inches provides a primary hydrology indicator. In addition, two secondary indicators of hydrology, riverine sediment and drift deposits, were present at this point.

Sampling Point 3: This sampling point was located in a slight depression on the slope east of Santa Maria Creek. Three wetland plants were dominant at this point including yerba mansa (*Anemopsis californicus*), saltgrass (*Distichlis spicata*), and Mexican rush; therefore, this area meets the hydrophytic vegetation criterion. The area had standing surface water at the time of sampling and the area appears to receive subsurface water (seep), which meets the hydric soil criteria. This point also had drift deposits. A soil pit dug to 12 inches did not reveal any hydric soil indicators, but this area is in an active floodplain in a mapped hydric soil.

Sampling Point 4: This sampling point was located in the small drainage flowing into Santa Maria Creek from the east. The only dominant plant at this point was wild oats, so the site did not meet the dominance test for hydrophytic vegetation. Yerba mansa, saltgrass, and Mexican rush were also present at this point, but not in high enough cover to meet the Prevalence Index, so the point did not meet the hydrophytic vegetation criterion. Surface water was flowing in the drainage several days after a rain event, showing that the channel conveys flows and has wetland hydrology. A soil pit dug to 10 inches did not reveal the presence of hydric soil indicators.

Sampling Point 5: This sampling point was located in the sandbar adjacent to the west side of Santa Maria Creek. Four wetland plants were dominant at this point including mule-fat, spreading goldenbush (*Isocoma menziesii*), Mexican rush, and California wild rose (*Rosa californica*). This area meets the hydrophytic vegetation criterion. A soil pit dug to 17 inches did not reveal any hydric soil

indicators, but this area is in an active floodplain in a mapped hydric soil. Two secondary indicators of hydrology, riverine sediment and drift deposits, were present at this point.

Old Survey Road

Existing culverts convey water to flow under Old Survey Road at the locations of the delineated Drainage 1 and Drainage 2 (See Figures 5 and 5a). During the time of the surveys, the culverts were clear of sediment and debris and site conditions observed did not suggest that replacement of the culverts would be necessary. The proposed project area in these locations would be limited to the existing maintained dirt road, which does not support any vegetation or wetland hydrology (See Figures 3, 4, and 5). One sample point was located just outside of the existing dirt roadway. One sampling point was dug within the vicinity of Drainage 3 (Figures 5 and 5b). The following is a description of this sampling point.

Sampling Point 8: This sampling point was located within an unmaintained section of Old Survey Road located approximately 4,000 feet north of the proposed crossing of Santa Maria Creek. Dominant plants at this point include Mariposa rush (*Juncus dubious*), curly dock (*Rumex crispus*), and western ragweed (*Ambrosia psilostachya*). This area meets the hydrophytic vegetation criterion. A soil pit dug to 15 inches did not reveal the presence of hydric soil indicators.

Erosion features were observed along portions of Old Survey Road north of Drainage 3; however, these areas are not proximal and do not share a surface connection to WoUS. Therefore, these areas would not fall under the jurisdiction of the USACE, CDFG, or RWQCB and are not discussed further in this report.

Discussion

Vegetation

Santa Maria Creek Crossing

Herbaceous perennial hydrophytic plants dominate the vegetation communities adjacent to the Santa Maria Creek channel (e.g. sample point 2) and in the seep area around sample point 3. The species observed included yerba mansa and Mexican rush. In addition, shrubs often found in wetlands, including mule-fat (*Baccharis salicifolia*) and spreading goldenbush are occasional and scattered throughout the landform dominated by the stream hydrology (sand benches). Much of the remainder of the channel area is dominated by non-native, annual, upland grasses, including wild oats. During the site visit in February 2011, grasses were primarily grazed to within four (4) inches of the ground, showing no old or new seed heads.

The study area receives continued grazing pressure, which appears to have caused a shift in the dominant species of vegetation. The Arid West Manual (USACE 2008b) states that areas affected by grazing may be problem areas for jurisdictional delineations because the resulting shifts in plant species composition due to persistent, intensive grazing can influence the hydrophytic wetland determination. The Arid West Manual recommends examining nearby, ungrazed reference sites with similar soils and hydrologic conditions. The upstream section of Santa Maria Creek (reference site) is located on a separate fenced parcel, and has similar topography, hydrology, and soils. While grazing has occurred on this adjacent property, the distinct and immediate change in plant species

composition at the fence-line suggests that it has received less grazing pressure, and has a more natural vegetation community representative of a less disturbed condition. The upstream section of Santa Maria Creek consists of disturbed southern willow scrub and disturbed wetland vegetation communities. Upstream sections in similar landform positions have a somewhat open cover of large mule-fat and grazed willows (*Salix* spp.). The manual states that if the soil and hydrology are comparable, assume that the same plant community would exist on the grazed site (the study area) in absence of grazing.

Also, note that the Witch Fire of October 2007 burned through this area and may have destroyed or disturbed the existing shrub communities on the floodplain, further altering vegetation from natural conditions.

Based on the guidance in the Arid West Manual and the observations of the study area during the delineation, the vegetation within the survey area of the floodplain was determined to be disturbed, both due to grazing and wildfire. In the absence of grazing, a riparian vegetation community with an overstory dominated by willows and mule fat, and an understory dominated by herbaceous hydrophytes typical of the reference site would be expected to be present on the majority of the active floodplain (within the limits of the hydric Tujunga sands).

Old Survey Road

Old Survey Road traverses through non-native grasslands, chaparral, and oak woodlands. The approximately 1-mile southern segment of Old Survey Road within the northwest portion of the Preserve is well-maintained and does not support vegetation. However, the remainder of this road within the Preserve is not actively maintained and is overgrown to varying degrees. The area in the immediate vicinity of Drainage 3 supports a mesic vegetation community dominated by Mariposa rush, curly dock, and western ragweed.

Hydrology

Santa Maria Creek Crossing

Santa Maria Creek is a tributary to San Dieguito River, a primary watercourse in San Diego County. Water was flowing within the Santa Maria Creek channel at the time of the site visit. OHWM characteristics observed within this drainage during the site visit included: presence of bed and bank; presence of litter and debris; sediment deposition; scour; vegetation matted down, bent, or absent; and a natural line impressed on the bank. The creek does possess relatively stable bed-and-bank, with slight alterations appearing in reviewed aerial photographs from the last 17 years. A nearly flat sandy bench extends laterally on either side of the creek, approximately to the limits of the Tujunga soil series, representing deposited alluvium. Santa Maria Creek drains a large area of the Ramona vicinity, channeling the flows through an increasingly narrow drainage. This channel is active during the rainy season. The drainage is constrained by hills on either side, limiting the lateral extents of floodwater boundaries.

A drift line was observed on either side of the stream during the site visit. The drift line may be from the unusually heavy rain event of late December 2010 (approximately five (5) inches over five (5) days).

The low-flow bed-and-bank channel averages approximately 10 to 20 feet wide. The Tujunga soils and limits of observed hydrology average approximately 100 feet wide through the study area.

A slightly concave area exists slightly east of the channel, within the sandy bench of the creek. This area is dominated by OBL and FACW plants and appears green in aerial photographs taken during the summer. This area is at the toe of the adjacent slope and appears to obtain subsurface water flows in the form of a seep. This area had standing water during the site visit.

Based on these direct observations of the study area during the field delineation, both the stream channel and the adjacent active floodplain (within the approximate limits of the mapped Tujunga sands) were determined to support wetland hydrology.

Old Survey Road

Drainages 1, 2, and 3 cross Old Survey Road and eventually connect to Santa Maria Creek. OHWM characteristics observed within these drainages during the site visit included: presence of bed and bank and a natural line impressed on the bank. The low-flow bed-and-bank channels average approximately 2 to 5 feet wide. Based on direct observations during the field delineation, these three drainages were determined to clearly convey flows (at least intermittently) and they were determined not to support wetland hydrology.

Soils

Santa Maria Creek Crossing

The soils within the bottom of the drainage within the study area are mapped as Tujunga sands. This series is typified by deep sands derived from granitic alluvium (Bowman 1973). This soil type is listed as 2B3 by the USDA, which signifies potentially hydric soils if the area has a shallow water table during the growing season. No hydric soil indicators were observed within the five (5) sample pits, even though appropriate hydrology and landscape position is present. The Arid West Supplement (USACE 2008a) details that some soils that meet the hydric definition may not exhibit hydric indicators. One given example of problematic hydric soils in the Arid West includes vegetated sand bars within floodplains that lack hydric indicators because of an annual deposition of new material or low organic matter content. This site receives some degree of scour and deposition of sediments, the effects of which would be obscured by the passage and compaction of the soil by cattle, and the quick colonization and emergence of annual grasses. It is possible that this sandy alluvium does not show indicators because of an inadequate period from the time of deposition. It is probable that the lack of hydric soil indicators is a result of the paucity of organic material in the soil and not because of a lack of formative anaerobic events. The site is maintained in a state of low vegetative biomass by the presence of cattle grazing. The organic matter that does collect in the soil is oxidized during the long, dry summers. This removes material which could form hydric indicators during the periodic inundation and saturation during the growing season (Bowman 1973). This soil is in the proper landform position and hydrologic regime to form hydric soil indicators, but does not show indicators. Sample point 2 is immediately adjacent to the creek and is inundated for a majority of the growing season, but shows no indicators. Sample point 3 is in an area dominated by strongly wetland associated herbaceous species (OBL and FACW) but shows no evidence of indicators.

Based on these direct observations of the study area during the delineation and the guidance in the Arid West Manual, the Tujunga sands within the active floodplain were determined to be problematic hydric soils. The soils occur within an area of floodplain that is subject to annual inundation for the minimum duration (or longer) during the growing season (e.g., are subject to wetland hydrology), and support herbaceous wetland vegetation in areas, especially where

rhizomatous species (that may spread as a response to frequent grazing) are dominant. Therefore, the Tujunga sands within the perennial stream channel and the adjacent floodplain were determined to be hydric.

Old Survey Road

Soils surrounding and within Drainage 1 as mapped as Vista course sandy loam (5-9% slopes) (Figures 4a-4b). Soils in the Vista series are on uplands and are derived from granodiorite or quartz diorite (Bowman 1973). Soils in the immediate vicinity of Drainage 2 are mapped as Visalia sandy loam. This complex is derived from granitic alluvium (Bowman 1973). Soils surrounding and within Drainage 3 are mapped as Cienega-Fallbrook rocky sandy loams (30-65% sloped, eroded). This complex is derived from material weathered in place from granitic rock (Bowman 1973). No hydric soil indicators were observed within the sample pits along Old Survey Road.

Determination

Descriptions of the jurisdictional habitats delineated within the study area are described below.

Santa Maria Creek

The bed-and-bank limits of Santa Maria Creek contain wetland vegetation and hydrology, and are determined to contain problematic hydric soils (Riverwash). This channel is a USACE vegetated wetland WoUS, RWQCB WoS, and CDFG Streambed (Figure 5).

The three criteria of hydrophytic vegetation, hydrology, and soils are necessary to delineate an area as a wetland. The three criteria have been shown to be present along the active floodplain on both sides of the creek. Vegetation within the streambed of the study area is disturbed wetlands and would likely contain southern willow scrub and herbaceous wetlands if not for the impact of grazing (and wildfire) (Figure 3). Hydrophytic vegetation was observed upstream within the reference site, which based on landscape position contains the same hydrologic regime and soil type. Hydric soil indicators were not observed, even in areas with long inundation during the growing season, but the landform position and presence of strongly hydrophytic vegetation in areas of the active floodplain show that the soil series is in fact hydric at this location. The drainage and floodplain support active and sustained wetland hydrology during the rainy season. The limits of disturbed wetlands extend to near the limits of the Tujunga soil series (Figures 4 and 4a). However, the resolution of the 1973 soil survey maps is not precise enough to be the determining factor. Limits of the disturbed wetlands were mapped to the edge of the limits of active hydrology (normal flood reach).

The small east-west drainage on the southeast side of the study area has periodic hydrology, but lacks a dominance of wetland vegetation and is not assumed to have the same soil conditions as the main drainage, and therefore is not an USACE wetland. It is a direct tributary to Santa Maria Creek, and would be regarded an USACE non-wetland WoUS, RWQCB WoS, and CDFG Streambed.

Old Survey Road

The three criteria of hydrophytic vegetation, hydrology, and soils necessary to delineate an area as a wetland were all absent from Drainages 1 and 2, and Drainage 3 was found only to support the hydrophytic vegetation criterion (Figures 3 and 5). All three drainages are unnamed tributaries to

Santa Maria Creek and would be regulated as USACE non-wetland WoUS, RWQCB WoS, and CDFG Streambeds.

Impact Analysis

Santa Maria Creek

The proposed project consists of two possible alternatives, including a dry-season only crossing and a bridge option. The dry weather crossing, if selected, would result in permanent impacts to vegetated WoUS, WoS, and state streambeds as well as disturbed wetlands under the joint jurisdiction of USACE, RWQCB, and CDFG. The width of the delineated jurisdictional habitat at the location of the proposed crossing is approximately 90 feet, consisting of a 20-foot wide incised channel and a vegetated active floodplain extending approximately 20 feet to the west and 50 feet to the east of the channel, respectively. If a 4-foot wide dry weather crossing is constructed instead of a bridge, it would result in a total of 0.008 acre of permanent impacts to jurisdictional habitat, including approximately 40 square feet (0.002 acre) of wetland WoUS and 280 square feet (0.006 acre) of disturbed wetlands. Construction of a span bridge at this location, with footings installed outside of the identified 90-foot-wide jurisdictional area, could result in the avoidance of impacts to jurisdictional waters.

Unavoidable impacts to the jurisdictional wetlands and waters on the site resulting from construction of a dry weather crossing may require a nationwide 404 permit from USACE, a CDFG section 1602 Streambed Alteration Agreement (SAA), and a Water Quality Waiver or 401 Certification from the RWQCB, as well as mitigation for direct impacts to 0.008 acre vegetated wetlands.

Old Survey Road

Drainages 1 and 2 cross under Old Survey Road via existing culverts and the actual roadbed would, therefore, not fall under the jurisdiction of the USACE, CDFG, or RWQCB. As the construction and maintenance of the proposed trail along Old Survey Road would not result in impacts beyond the existing dirt roadbed, direct impacts to Drainages 1 and 2 would not occur as a result of the proposed project. Construction and maintenance of the proposed trail along the section of Old Survey Road that crosses Drainage 3 would result in impacts to 18 square feet (0.0004 acre) regulated as a non-wetland WoUS and 36 square feet (0.0008 acre) of CDFG Streambed.

Chapter 5

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Appendix A

Figures

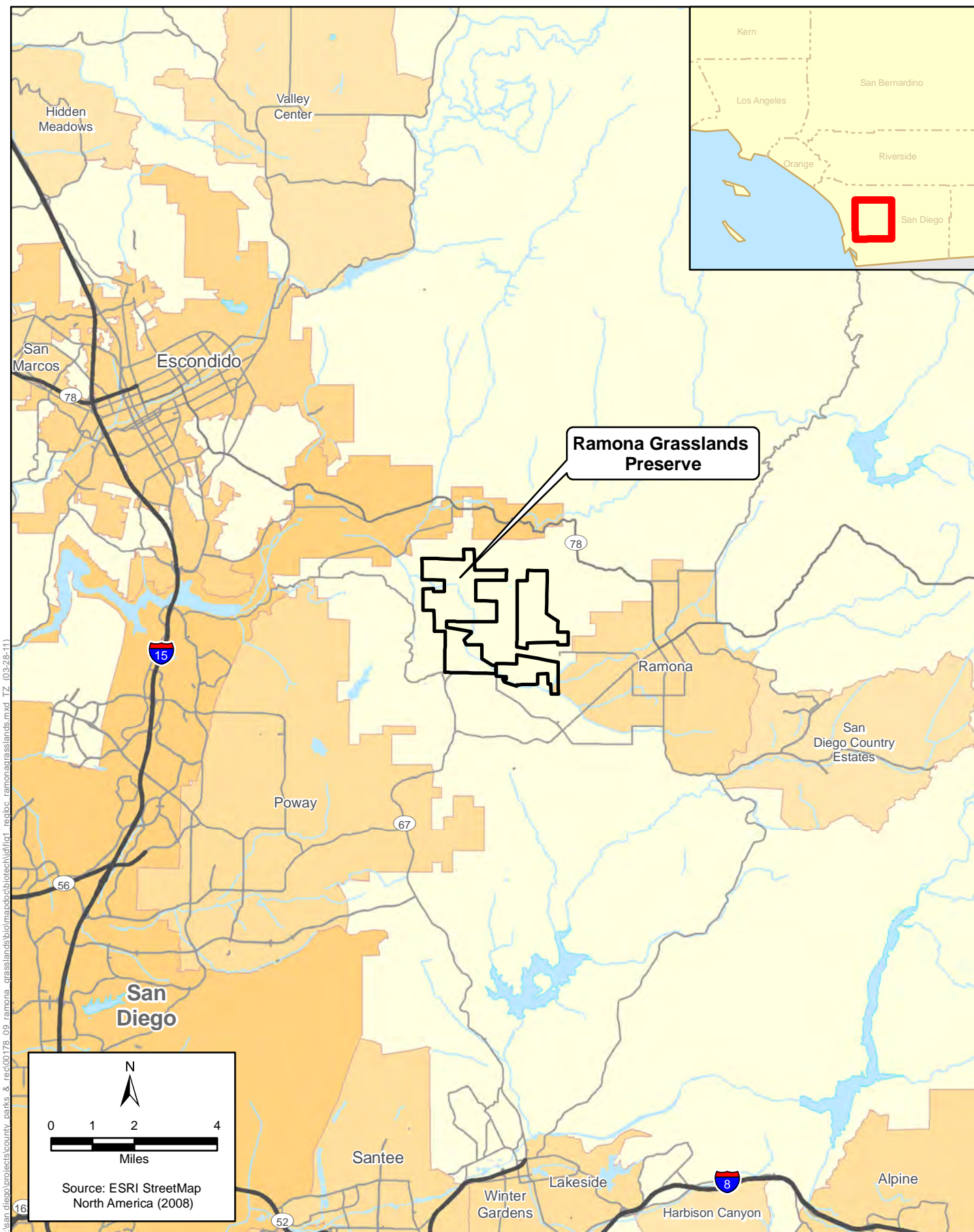


Figure 1
Regional Location
Ramona Grasslands Preserve

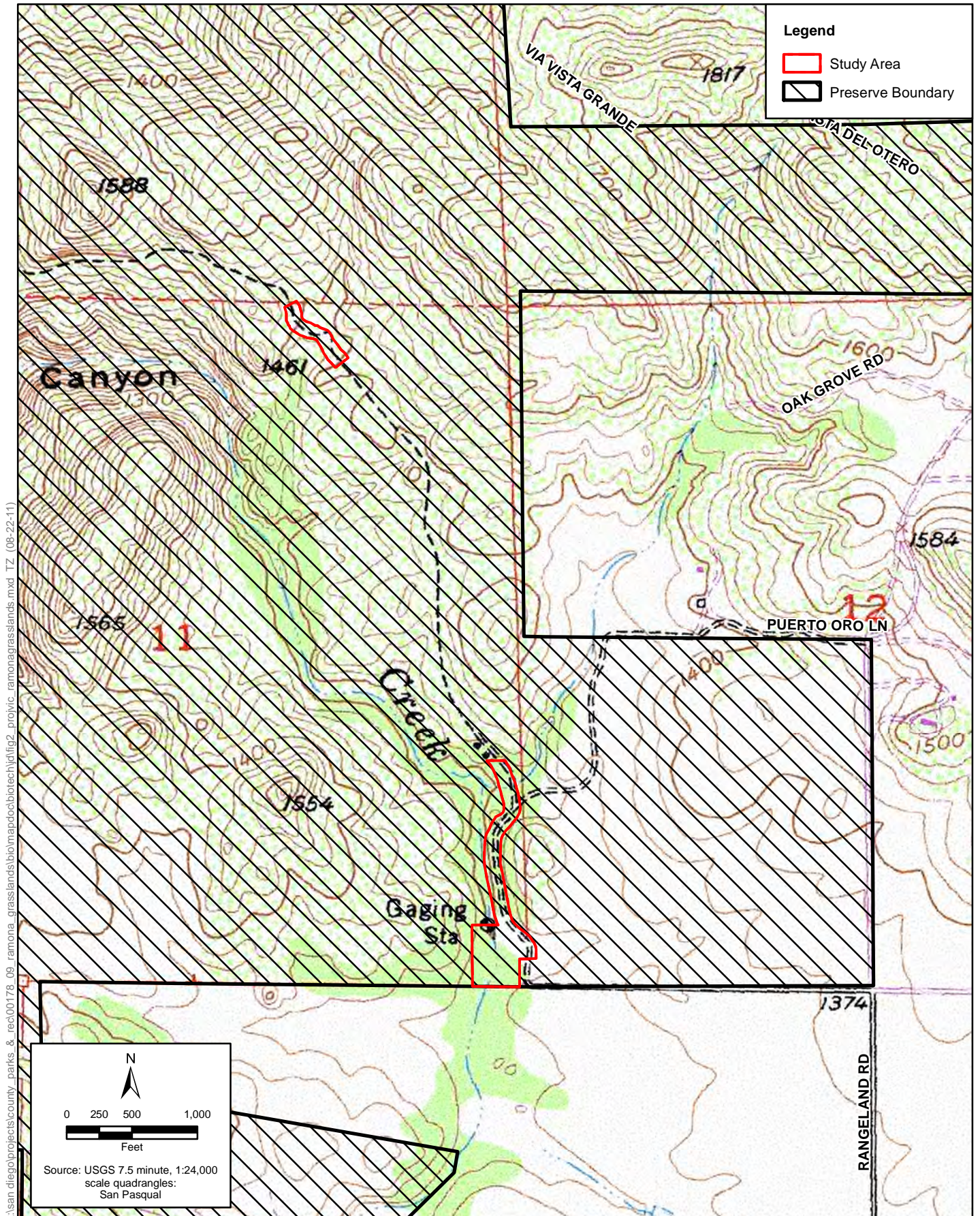


Figure 2
Preserve Vicinity
Ramona Grasslands Preserve

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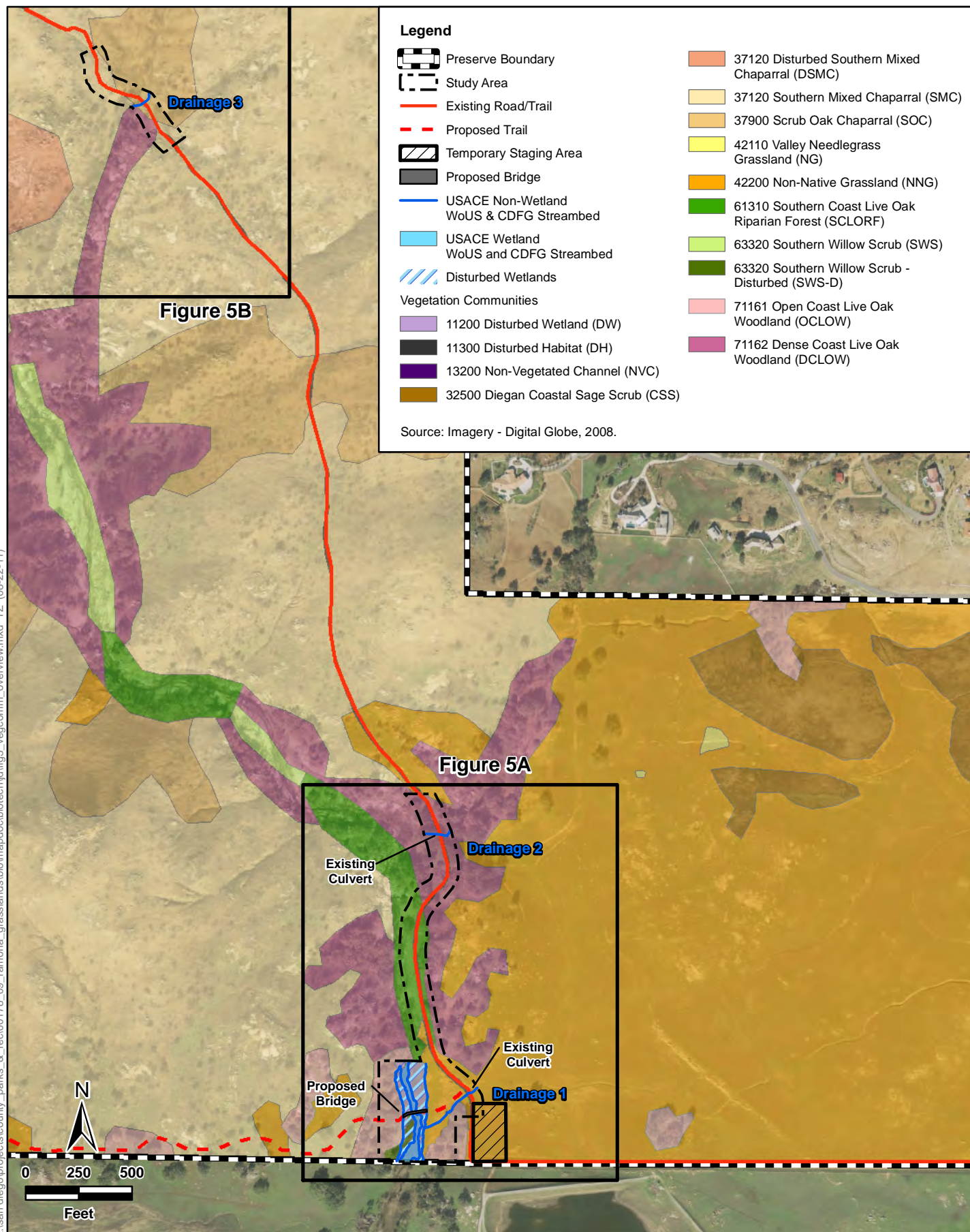


Figure 3
Vegetation Communities Overview
Ramona Grasslands Preserve

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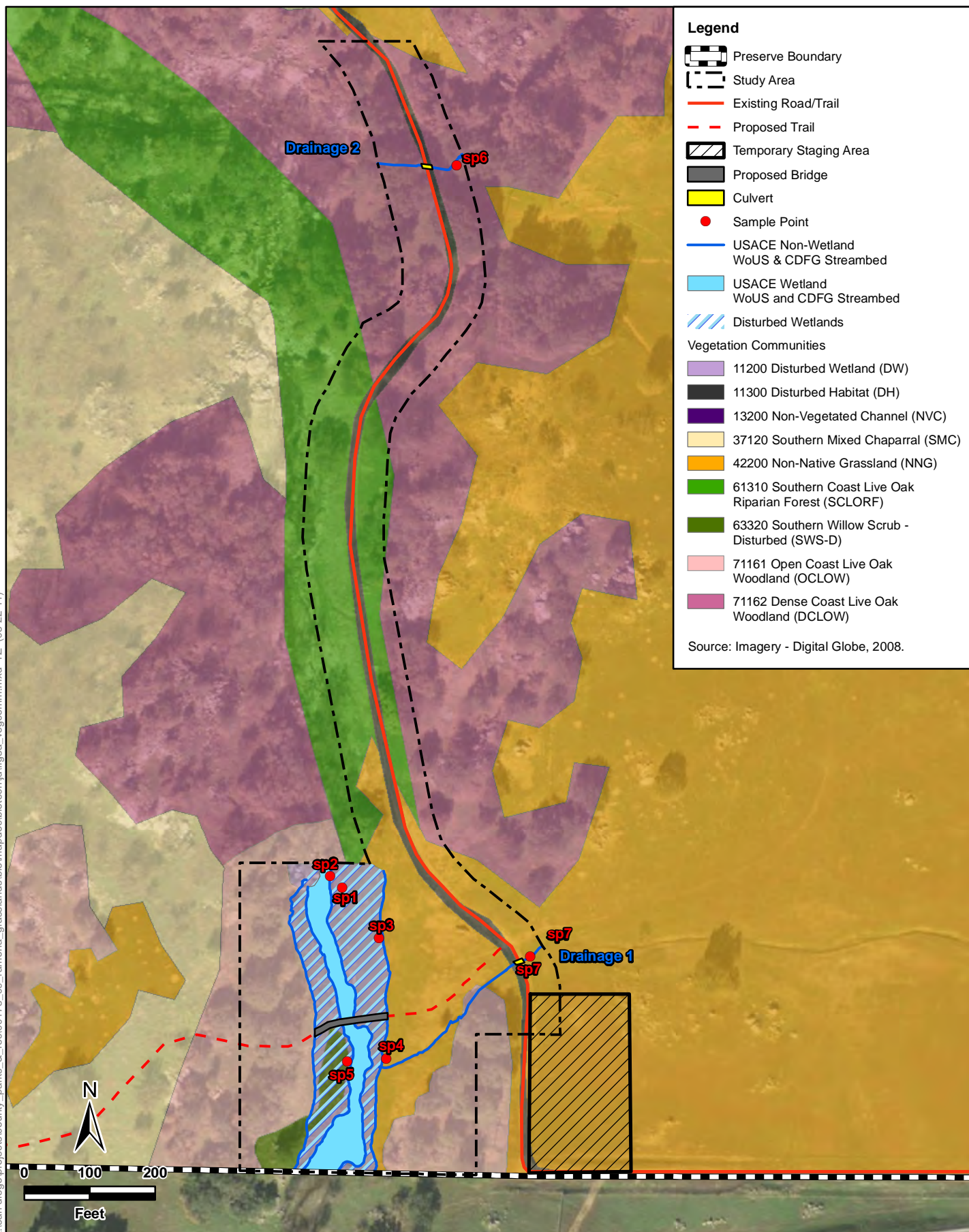


Figure 3A
Vegetation Impacts
Ramona Grasslands Preserve

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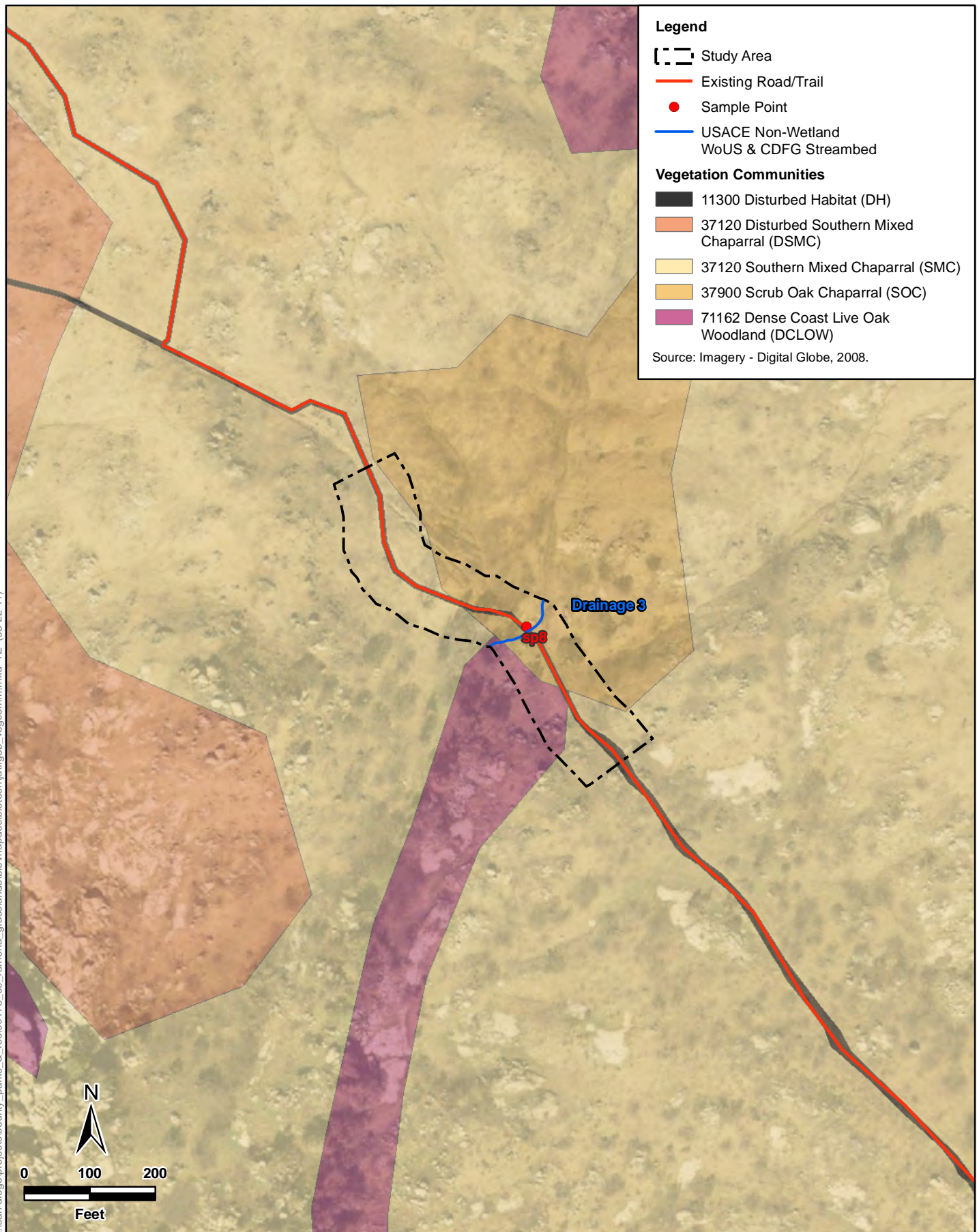


Figure 3B
Vegetation Impacts
Ramona Grasslands Preserve

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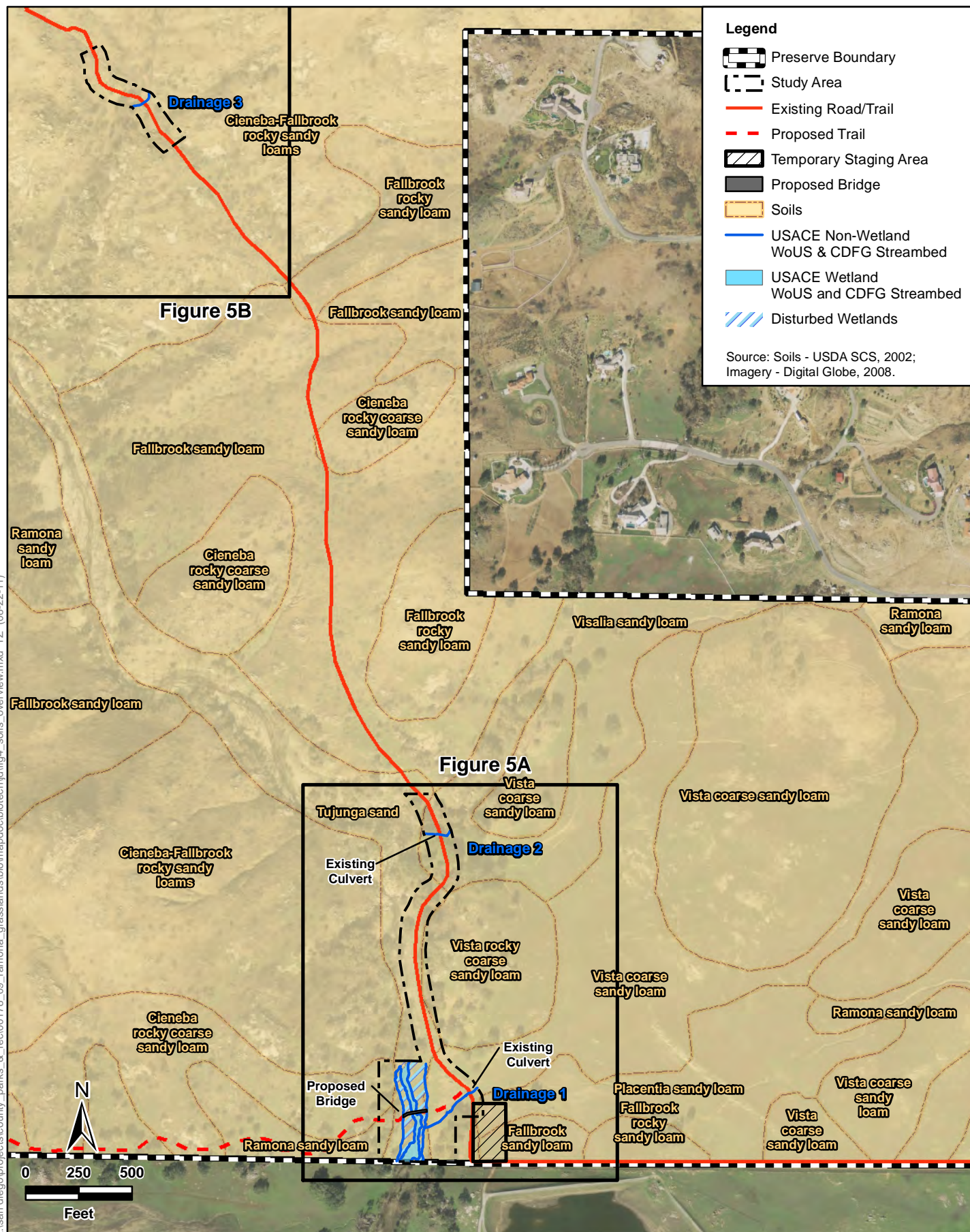


Figure 4
Soils Overview
Ramona Grasslands Preserve

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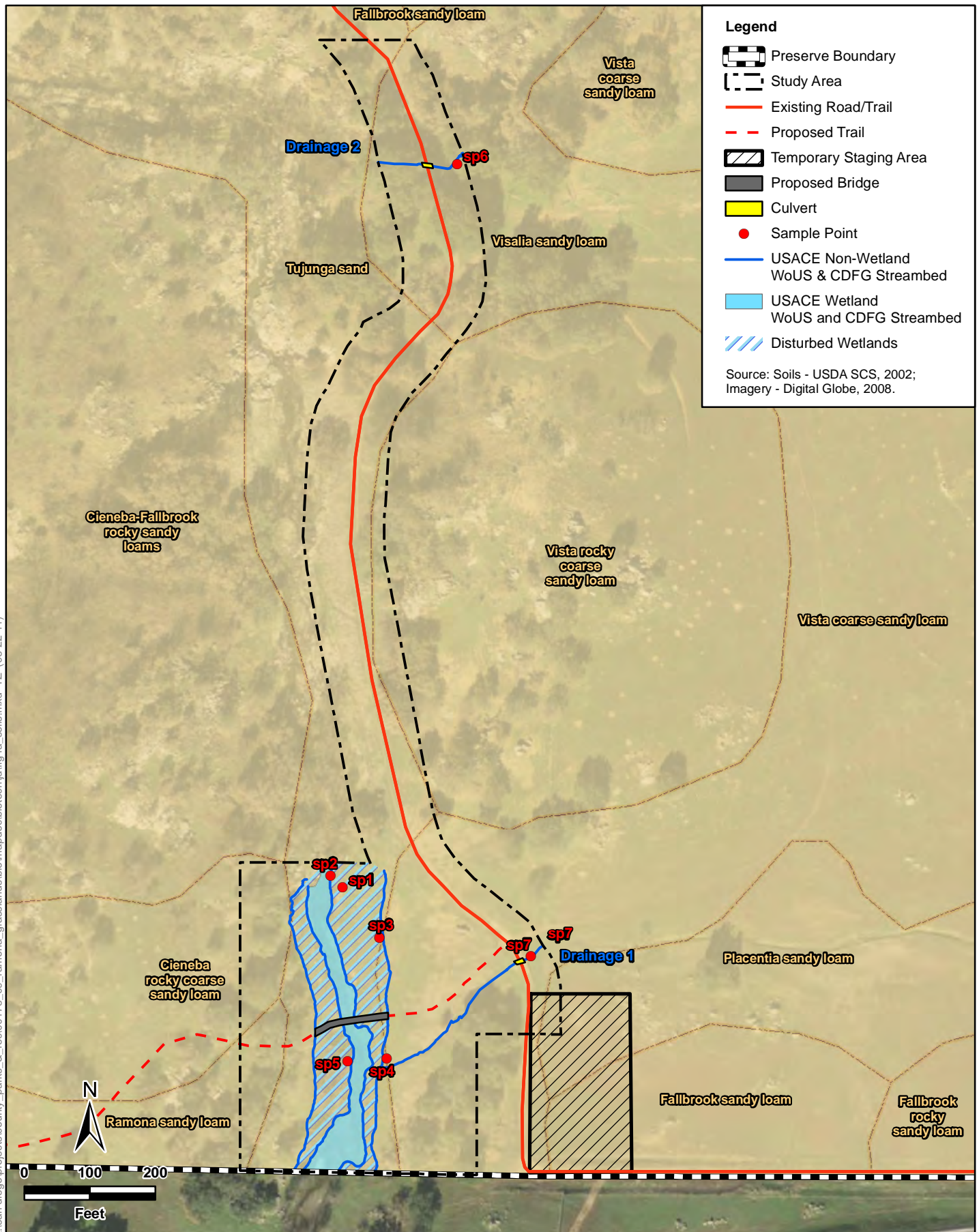
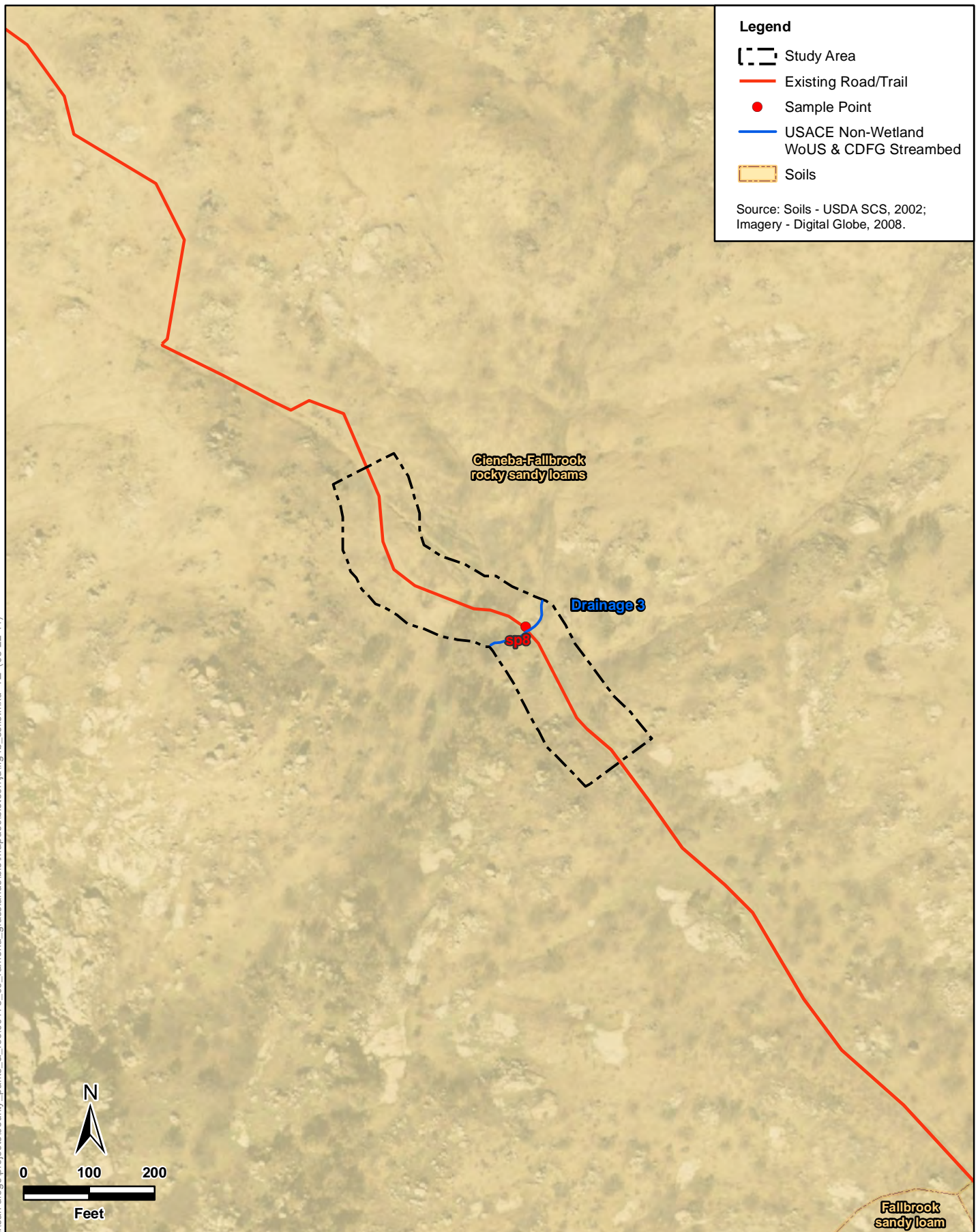


Figure 4A
Soils Impacts
Ramona Grasslands Preserve

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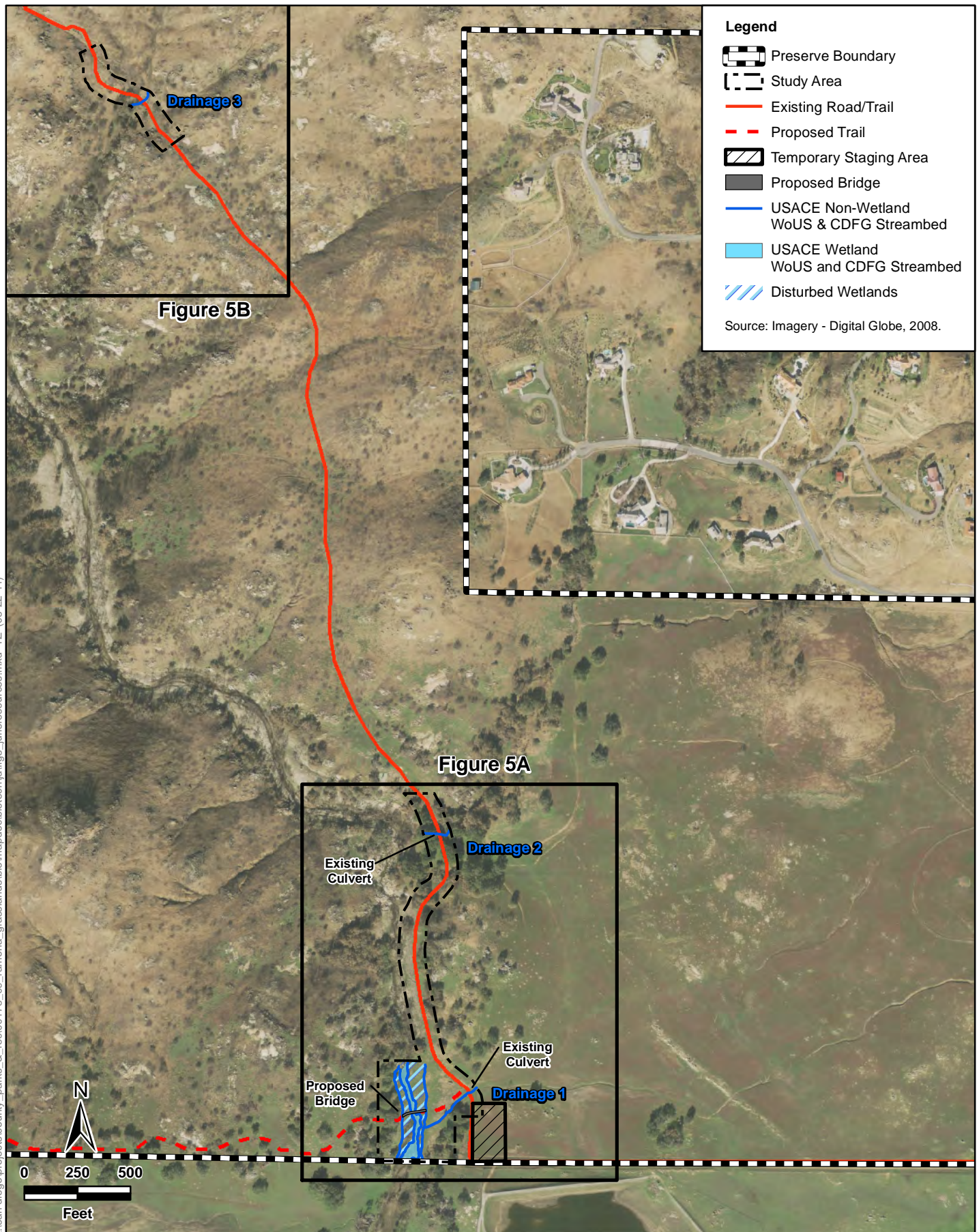


Figure 5
Jurisdictional Resources Overview
Ramona Grasslands Preserve

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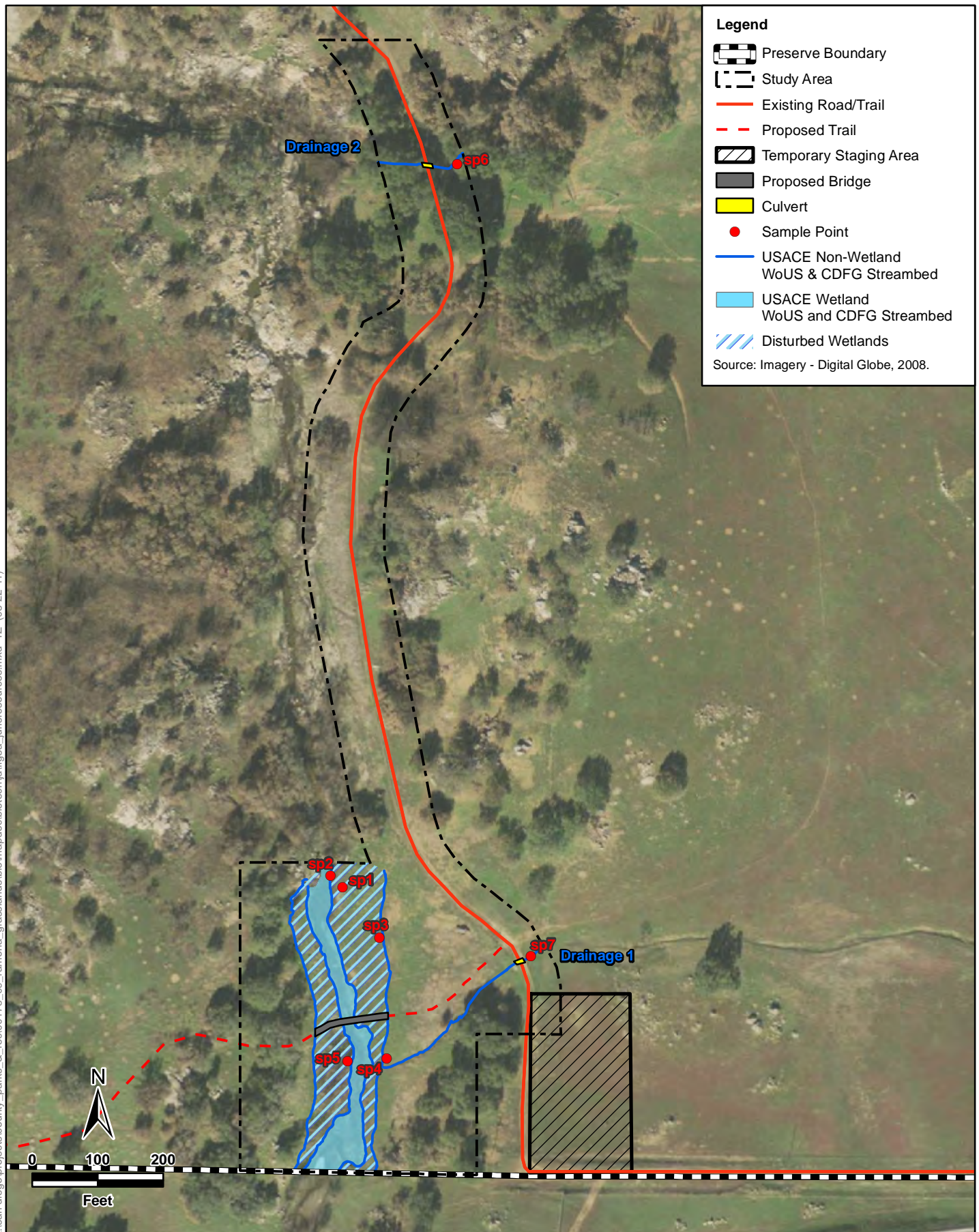


Figure 5A
Jurisdictional Impacts
Ramona Grasslands Preserve

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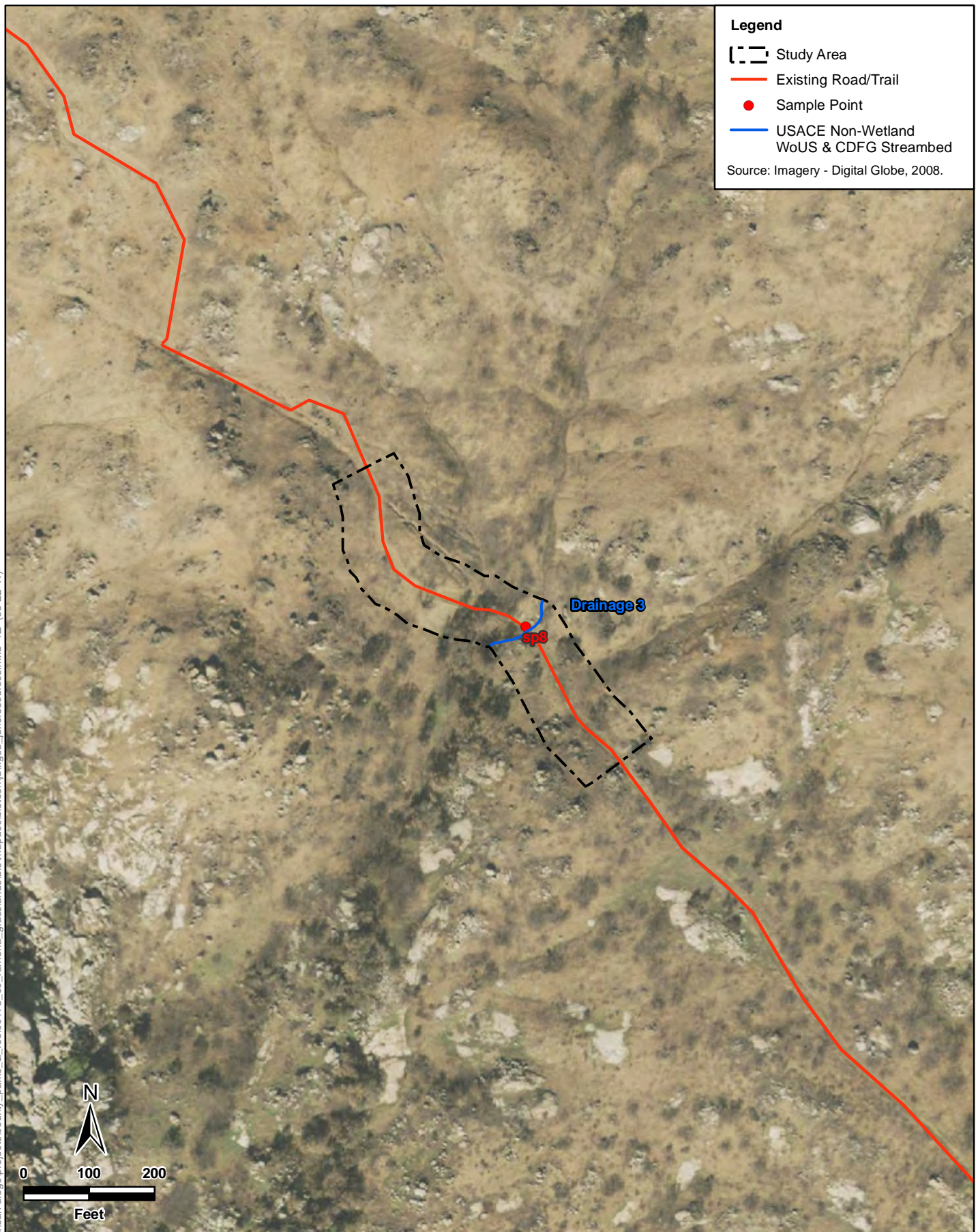


Figure 5B
Jurisdictional Impacts
Ramona Grasslands Preserve

Appendix B

Data Sheets

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Ramona Grassland Crossing City/County: Ramona, S.D. Sampling Date: 2/28/11
 Applicant/Owner: County of San Diego Parks & Recreation State: CA Sampling Point: 1
 Investigator(s): Dale R. Tenour / Dayton Teal Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): floodplain terrace Local relief (concave, convex, none): slight slope Slope (%): 3
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: TuB - Tujunga Sands, 0 to 5 Percent NWI classification: 2.3

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Y Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? Y (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks:		

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____				
Herb Stratum				
1. <u>Avena sp.</u>	<u>90</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Juncus arctu ssp. mex</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
3. <u>Amb. psilo</u>	<u><1</u>	<u>N</u>	<u>FAC</u>	
4. <u>Anagallis arven</u>	<u><1</u>	<u>N</u>	<u>OBL</u>	
Total Cover: <u>105</u>				
Woody Vine Stratum				
1. <u>None</u>				
2. _____				
Total Cover: _____				
% Bare Ground in Herb Stratum <u>1</u> % Cover of Biotic Crust _____				
Remarks: <u>The vegetation at this point is significantly disturbed by grazing. Upstream habitat, in an offsite area that receives less grazing, has wetland trees and shrubs</u>				

Sampling Point: 1

HYDROLOGY

Arid West – Version 11-1-2006

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Ramona Grasslands City/County: Ramona, San Diego Sampling Date: 2/28/11
 Applicant/Owner: County of San Diego Department of Parks & Rec. State: CA Sampling Point: 2
 Investigator(s): Daylon Teel, Dale R. Tenover Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): floodplain terrace Local relief (concave, convex, none): drainage Slope (%): 3
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: TuB - Tujunga Sands, 0 to 5 percent NWI classification: 2.3

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks:		

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: <u>0</u>				
Sapling/Shrub Stratum				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <u>Y</u> Dominance Test is >50% <u>Y</u> Prevalence Index is ≤3.0 ¹ <u>✓</u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>Y</u> Problematic Hydrophytic Vegetation ¹ (Explain)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: <u>0</u>				¹ Indicators of hydric soil and wetland hydrology must be present.
Herb Stratum				
1. <u>Scirpus sp. (vegetative only)</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. <u>Juncus arc. ssp. mex</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Medicago polymorpha</u>	<u>10</u>	<u>N</u>	<u>UPL</u>	
4. <u>Anemopsis californica</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	
5. <u>Dis. spicata</u>	<u>1</u>	<u>N</u>	<u>FACW+</u>	
Total Cover: <u>52</u>				
Woody Vine Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: <u>0</u>				
% Bare Ground in Herb Stratum <u>48</u> % Cover of Biotic Crust _____				
Remarks: <u>Vegetation would likely have hydrophytic trees & shrubs if not for the presence of grazing.</u>				

Sampling Point: 2

[illegible]Hydric Soil Present? Yes X No

Arid West – Version 11-1-2006

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Ramona Grasslands Crossing City/County: Ramona, San Diego Sampling Date: 2/28/2011
 Applicant/Owner: County of San Diego Dept. of Parks + Recreation State: CA Sampling Point: 3
 Investigator(s): Dale E. Enour Dayton Teel Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): floodplain terrace Local relief (concave, convex, none): slightly concave Slope (%): 0
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Tujunga Sands, 0 to 5 percent NWI classification: 2.3

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X Soil _____, or Hydrology _____ significantly disturbed? Yes X No _____ Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? Yes (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks:	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			
Total Cover: _____			
Sapling/Shrub Stratum			
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
Total Cover: _____			
Herb Stratum			
1. <u>Juncus arc. sp. mex</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>
2. <u>Anemopsis californica</u>	<u>15</u>	<u>N</u>	<u>OBL</u>
3. <u>Dis. spicata</u>	<u>15</u>	<u>N</u>	<u>FACW</u>
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
Total Cover: <u>60</u>			
Woody Vine Stratum			
1. _____			
2. _____			
Total Cover: _____			
% Bare Ground in Herb Stratum <u>40</u>	% Cover of Biotic Crust <u>0</u>		
Remarks:			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>15</u>	x 1 = <u>15</u>
FACW species <u>45</u>	x 2 = <u>90</u>
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: <u>60</u> (A)	<u>105</u> (B)
Prevalence Index = B/A = <u>1.75</u>	

Hydrophytic Vegetation Indicators:

Y Dominance Test is >50%

Y Prevalence Index is ≥3.0¹

____ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes Y No _____

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Ramona Grasslands Crossing City/County: Ramona, SD Sampling Date: 2/28/2011
 Applicant/Owner: County of San Diego Dept. of Parks & Recreation State: CA Sampling Point: 4
 Investigator(s): Dale Ritenour / Dayton Teel Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): drainage Slope (%): 2-5
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: TuB - TuJunga Sands / NSC - Vista Course Sandy loam NWI classification: 2.3 / N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Yes _____ No X Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? Yes _____ (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>		
Wetland Hydrology Present?	Yes <u>X</u> No _____		
Remarks:			

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				
2. _____				Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
4. _____				
Total Cover: _____				
Sapling/Shrub Stratum				Prevalence Index worksheet:
1. _____				Total % Cover of: _____ Multiply by: _____
2. _____				OBL species <u>10</u> x 1 = <u>10</u>
3. _____				FACW species <u>15</u> x 2 = <u>30</u>
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species _____ x 4 = _____
Total Cover: _____				UPL species <u>50</u> x 5 = <u>250</u>
Herb Stratum				Column Totals: <u>75</u> (A) <u>290</u> (B)
1. <u>Avena sp.</u>	<u>50</u>	<u>Y</u>	<u>UPL</u>	Prevalence Index = B/A = <u>3.9</u>
2. <u>Anemopsis californica</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
3. <u>Juncus acut. ssp. mex.</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4. <u>Dis. sp.</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: <u>75</u>				
Woody Vine Stratum				Hydrophytic Vegetation Indicators:
1. _____				<u>X</u> Dominance Test is >50%
2. _____				<u>N</u> Prevalence Index is ≤3.0 ¹
				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
				Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must be present.
				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
% Bare Ground in Herb Stratum <u>25</u> % Cover of Biotic Crust _____				
Remarks:				

Sampling Point: 4

HYDROLOGY	
Wetland Hydrology Indicators: <u>Primary Indicators (any one indicator is sufficient)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Water-Stained Leaves (B9)	
<u>Secondary Indicators (2 or more required)</u> <input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2"</u> Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Rancho Grasslands Crossing City/County: Rancho, SD Sampling Date: 2/28/2011
 Applicant/Owner: County of San Diego Dept. of Parks + Recreation State: CA Sampling Point: 5
 Investigator(s): Dale Ritencour / Paulin Teel Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): ~flat Slope (%): 1-2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: TuB-Tujunga sands, 0 to 5 percent NWI classification: 2.3

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation ☒ Soil _____ or Hydrology _____ significantly disturbed? Yes ☒ No _____
 Are Vegetation _____ Soil ☒ or Hydrology _____ naturally problematic? Yes (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____	
Remarks:		

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>1</u> x 1 = <u>1</u> FACW species <u>27</u> x 2 = <u>54</u> FAC species <u>17</u> x 3 = <u>51</u> FACU species _____ x 4 = _____ UPL species <u>15</u> x 5 = <u>60</u> Column Totals: <u>60</u> (A) <u>166</u> (B) Prevalence Index = B/A = <u>2.77</u>
Sapling/Shrub Stratum				
1. <u>Baccharis</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Nassella</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Lespedeza</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
Total Cover: <u>25</u>				
Herb Stratum				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Antennaria</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
2. <u>Juniperus</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Alnus</u>	<u>15</u>	<u>Y</u>	<u>UPL</u>	
4. <u>Distichlis spicata</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
5. <u>Anemone californica</u>	<u>1%</u>	<u>N</u>	<u>OBL</u>	¹ Indicators of hydric soil and wetland hydrology must be present. Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: <u>35</u>				
Woody Vine Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>65</u> % Cover of Biotic Crust <u>0</u>				
Remarks: <u>More tree & shrub cover would be expected if grazing was not present.</u>				

Sampling Point: 5

HYDROLOGY

US Army Corps of Engineers

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Ramona Grasslands City/County: San Diego Sampling Date: 8/15/11
 Applicant/Owner: SD County Parks State: CA Sampling Point: SP-6
 Investigator(s): C. Kinschling Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Valley bottom Local relief (concave, convex, none): convex Slope (%): 12%
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation Y, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>_____</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: <u>pit in cattle grazing area</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (AB)														
1. <u>Quercus agrifolia</u>	<u>30%</u>	<u>Y</u>	<u>VPL</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
Total Cover: _____																		
Sapling/Shrub Stratum				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>1</u></td> <td>x 1 = <u>1</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>2</u></td> <td>x 3 = <u>6</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>2</u></td> <td>x 5 = <u>10</u></td> </tr> <tr> <td>Column Totals: <u>5</u> (A)</td> <td><u>17</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.4</u>	Total % Cover of:	Multiply by:	OBL species <u>1</u>	x 1 = <u>1</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>2</u>	x 3 = <u>6</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>2</u>	x 5 = <u>10</u>	Column Totals: <u>5</u> (A)	<u>17</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>1</u>	x 1 = <u>1</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>2</u>	x 3 = <u>6</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>2</u>	x 5 = <u>10</u>																	
Column Totals: <u>5</u> (A)	<u>17</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
Total Cover: _____																		
Herb Stratum				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Bromus diandrus</u>	<u>40%</u>	<u>Y</u>	<u>VPL</u>															
2. <u>Solanum americanum</u>	<u>5%</u>	<u>N</u>	<u>FAC</u>															
3. <u>Anagallis arvensis</u>	<u>20%</u>	<u>N</u>	<u>FAC</u>															
4. <u>Acanthopanax californicum</u>	<u>5%</u>	<u>N</u>	<u>OBL</u>															
Total Cover: <u>66%</u>																		
Woody Vine Stratum				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
Total Cover: _____																		
% Bare Ground in Herb Stratum <u>10</u> % Cover of Biotic Crust _____																		
Remarks: <u>Vegetation sampled around channel</u>																		

Sampling Point: SP-6

[illegible]Hydric Soil Present? Yes No ☒

Wetland Hydrology Present? Yes ☐ No ☒

Arid West – Version 11-1-2006

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Ranona Grasslands City/County: San Diego Sampling Date: 8/15/11
 Applicant/Owner: SD County Parks State: CA Sampling Point: SP-7
 Investigator(s): G. Kinschke Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 1%
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation Y, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No _____
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: <u>Pit site in cattle grazing area, vegetation has been browsed</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
1. <u>none</u>																		
2. _____																		
3. _____																		
Total Cover: _____				Prevalence Index worksheet: <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>2</u></td> <td>x 2 = <u>4</u></td> </tr> <tr> <td>FAC species <u>1</u></td> <td>x 3 = <u>3</u></td> </tr> <tr> <td>FACU species <u>1</u></td> <td>x 4 = <u>4</u></td> </tr> <tr> <td>UPL species <u>1</u></td> <td>x 5 = <u>5</u></td> </tr> <tr> <td>Column Totals: <u>5</u> (A)</td> <td><u>16</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>3.2</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>2</u>	x 2 = <u>4</u>	FAC species <u>1</u>	x 3 = <u>3</u>	FACU species <u>1</u>	x 4 = <u>4</u>	UPL species <u>1</u>	x 5 = <u>5</u>	Column Totals: <u>5</u> (A)	<u>16</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>2</u>	x 2 = <u>4</u>																	
FAC species <u>1</u>	x 3 = <u>3</u>																	
FACU species <u>1</u>	x 4 = <u>4</u>																	
UPL species <u>1</u>	x 5 = <u>5</u>																	
Column Totals: <u>5</u> (A)	<u>16</u> (B)																	
Sapling/Shrub Stratum																		
1. <u>none</u>																		
2. _____																		
3. _____																		
4. _____																		
Total Cover: _____																		
Herb Stratum																		
1. <u>Bromus hordeaceus</u>	<u>61%</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Ambrosia psilostachys</u>	<u>2%</u>	<u>N</u>	<u>FAC</u>															
3. <u>Bumelia crinita</u>	<u>2%</u>	<u>N</u>	<u>FACW</u>															
4. <u>Pistichlis spicata</u>	<u>5%</u>	<u>N</u>	<u>FACW*</u>															
5. <u>Avena barbata</u>	<u>30%</u>	<u>Y</u>	<u>UPL</u>															
6. _____																		
7. _____																		
8. _____																		
Total Cover: <u>100</u>																		
Woody Vine Stratum																		
1. _____																		
2. _____																		
Total Cover: _____																		
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust _____																		
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>																		
Remarks: <u>Vegetation sampled near outlet of culvert</u>																		

Sampling Point: 5/1.7

[illegible]

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Hydric Soil Present? Yes _____ No X

Remarks: soil sampled near culvert, unit from bottom of pit

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
<u>Primary Indicators (any one indicator is sufficient)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Wetland Hydrology Present? Yes _____ No X

Remarks: Area completely covered with vegetation, no surface signs of hydrology

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Ramona Grasslands City/County: San Diego Sampling Date: 8/15/11
 Applicant/Owner: SD County Parks State: CA Sampling Point: 91-8
 Investigator(s): G. Kineshita Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: _____	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)																															
1. <u>Quercus agrifolia</u>	<u>10%</u>	<u>N</u>	<u>VPL</u>																																
2. _____	_____	_____	_____																																
3. _____	_____	_____	_____																																
4. _____	_____	_____	_____																																
Total Cover: <u>10%</u>				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>1</u></td> <td>x 3 = <u>3</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>1</u></td> <td>x 5 = <u>5</u></td> </tr> <tr> <td>Column Totals: <u>7</u> (A)</td> <td><u>18</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.57</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>5</u>	x 2 = <u>10</u>	FAC species <u>1</u>	x 3 = <u>3</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>1</u>	x 5 = <u>5</u>	Column Totals: <u>7</u> (A)	<u>18</u> (B)																	
Total % Cover of:	Multiply by:																																		
OBL species <u>0</u>	x 1 = <u>0</u>																																		
FACW species <u>5</u>	x 2 = <u>10</u>																																		
FAC species <u>1</u>	x 3 = <u>3</u>																																		
FACU species <u>0</u>	x 4 = <u>0</u>																																		
UPL species <u>1</u>	x 5 = <u>5</u>																																		
Column Totals: <u>7</u> (A)	<u>18</u> (B)																																		
Sapling/Shrub Stratum <u>N/A</u>																																			
Herb Stratum <table border="0"> <tr> <td>1. <u>Muhlenbergia rigens</u></td> <td><u>5%</u></td> <td><u>N</u></td> <td><u>FACW</u></td> </tr> <tr> <td>2. <u>Ambrosia psilostachya</u></td> <td><u>20%</u></td> <td><u>Y</u></td> <td><u>FAC</u></td> </tr> <tr> <td>3. <u>Stachys rigida</u></td> <td><u>10%</u></td> <td><u>N</u></td> <td><u>FACWT</u></td> </tr> <tr> <td>4. <u>Polygala monspeliensis</u></td> <td><u>10%</u></td> <td><u>N</u></td> <td><u>FACWT</u></td> </tr> <tr> <td>5. <u>Rumex crispus</u></td> <td><u>15%</u></td> <td><u>N</u></td> <td><u>FACW</u></td> </tr> <tr> <td>6. <u>Juncus debilis</u></td> <td><u>25%</u></td> <td><u>Y</u></td> <td><u>FACWT</u></td> </tr> <tr> <td>7. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>8. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </table> Total Cover: <u>85%</u>				1. <u>Muhlenbergia rigens</u>	<u>5%</u>	<u>N</u>	<u>FACW</u>	2. <u>Ambrosia psilostachya</u>	<u>20%</u>	<u>Y</u>	<u>FAC</u>	3. <u>Stachys rigida</u>	<u>10%</u>	<u>N</u>	<u>FACWT</u>	4. <u>Polygala monspeliensis</u>	<u>10%</u>	<u>N</u>	<u>FACWT</u>	5. <u>Rumex crispus</u>	<u>15%</u>	<u>N</u>	<u>FACW</u>	6. <u>Juncus debilis</u>	<u>25%</u>	<u>Y</u>	<u>FACWT</u>	7. _____	_____	_____	_____	8. _____	_____	_____	_____
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Woody Vine Stratum 1. _____ 2. _____ Total Cover: _____																																			
% Bare Ground in Herb Stratum <u>5%</u> % Cover of Biotic Crust _____																																			
Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u>X</u> Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain)																																			
Hydrophytic Vegetation Present? Yes <u>X</u> No _____																																			
Remarks: <u>Vegetation on road bed, around fire tracks (bare)</u>																																			

Sampling Point: SP-1

[illegible]

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverline)
- ___ Sediment Deposits (B2) (Riverline)
- ___ Drift Deposits (B3) (Riverline)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: location almost totally overgrown with vegetation. Spine is knocked over from surface flows earlier in season, but no sediments are present

Appendix C

Feature Photographs



Photograph 1 View north from Sample Point 4 (Santa Maria Creek crossing).



Photograph 2 View south from Sample Point 4 (Santa Maria Creek crossing).



Photograph 3 View south from Sample Point 2 (Santa Maria Creek crossing).



Photograph 4 Sample Point 1(Santa Maria Creek crossing): Few hydrophytes located at this section of the floodplain, adjacent to Point 2.



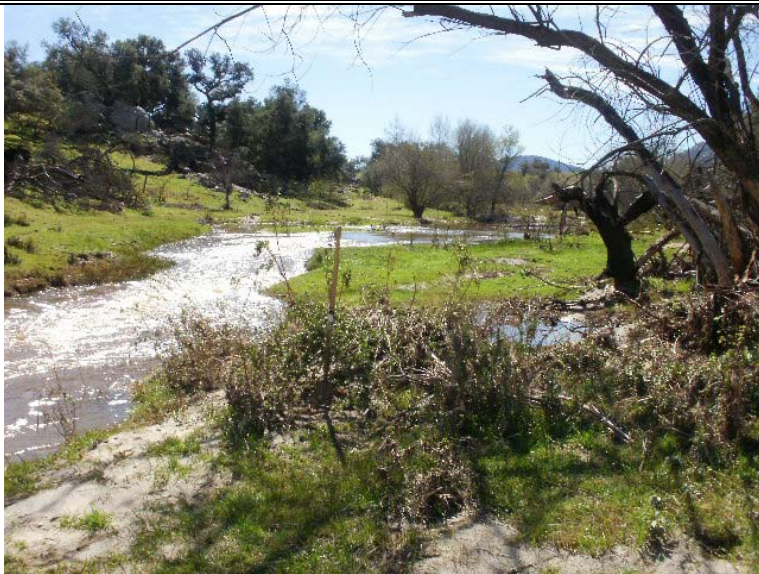
Photograph 5 Sample Point 2(Santa Maria Creek crossing): Immediately adjacent to creek. Dominated by small herbaceous hydrophytic vegetation.



Photograph 6 Sample Point 3 (Santa Maria Creek crossing): Slight depression may receive subsurface water flow and has herbaceous wetland vegetation.



Photograph 7 Sample Point 4(Santa Maria Creek crossing): Small ephemeral drainage with herbaceous wetland plants.



Photograph 8 Sample Point 5(Santa Maria Creek crossing): Sandbar under dead willows has some hydrophytic vegetation.



Photograph 9 View looking west along Drainage 1 with view of Old Survey Road.



Photograph 10 View from Old Survey Road (existing dirt road) looking west at culvert outlet of Drainage 1.



Photograph 11 Sample Point 6 (Old Survey Road): View of Drainage 2 running under Old Survey Road via an existing culvert. (Photo shows a piece of pipe sitting within the drainage in front of the existing culvert)



Photograph 12 Sample Point 8 (Old Survey Road): View along overgrown section of Old Survey Road at the location of Drainage 3.